VOL. 85 NO. 11

textile bulletin

NOVEMBER • 1959

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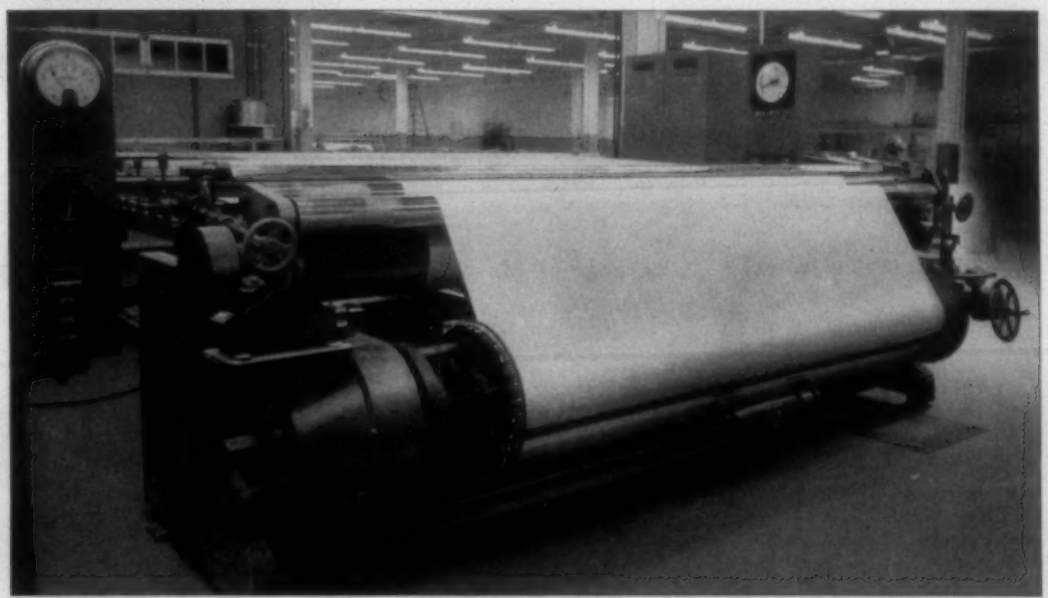
TEXTILE BULLETIN is published monthly by Clark Publishing Co., 818 West Morehead St., Charlotte 6, N.C. Subscription $1 per year in advance, $2 for two years. Entered as second-class mail matter April 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

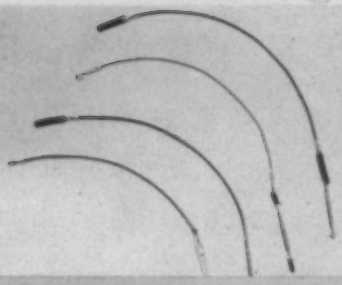
TOPS IN QUALITY

WEST POINT FOUNDRY'S NEW HIGH SPEED SLASHER HEAD END WITH TRAVERSING HEADSTOCK. Every feature of this new high speed head emphasizes quality. Its massive headstock and tailstock can accommodate loom beams varying over 100 inches in width *(not limited to 50 inches)* with no long arbors projecting beyond the heavy cast iron frames. Both headstock and tailstock traverse toward the center together to support the narrowest loom beam with no long inward projecting arbors, thereby providing the rigid beam support desirable for high speed, high quality slashing.

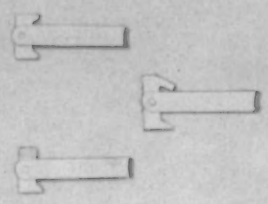


PROVED IN MILL OPERATION — West Point's new slasher head end is producing in more than a dozen mills on warps ranging from wide sheeting and heavy duck to the lightest print cloth warp. (West Point has more slashers running on wide warps than all other manufacturers combined.) Power transmission to this proven head end is simplest and most efficient yet devised—the same as the spline-shaft drive used on the most expensive machine tools. No worm gear reducer, no gear motor, no torque tube, no universal joints! What could be simpler, less troublesome than chain and V-belt drive with parts available from any mill supply house? This high speed head end is a component of the PACE-

LEADERSHIP PROVED BY SALES: In the last three years alone, over 50 textile mills have installed more than 130 West Point Foundry Multi-Cylinder Slashers.



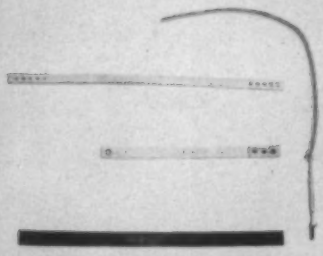
FOR LOOM



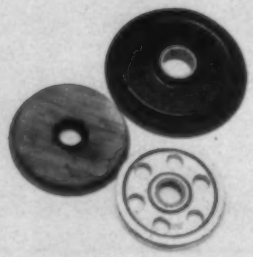
CORDS AND HARNESS ADJUSTERS

STIRRUPS, LOOPS, JACKEYES

CHANGE-OVER



YOU'LL NEED



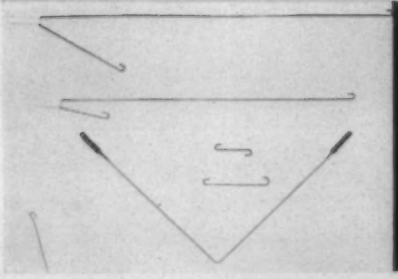
STRAPPING AND HARNESS ADJUSTERS

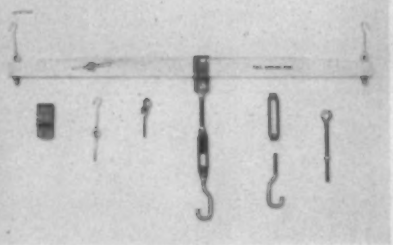
PLASTIC, WOOD, ALUMINUM SHEAVES

THESE ITEMS

WIRES, HOOKS, STIRRUPS

JACKSTICKS AND PARTS



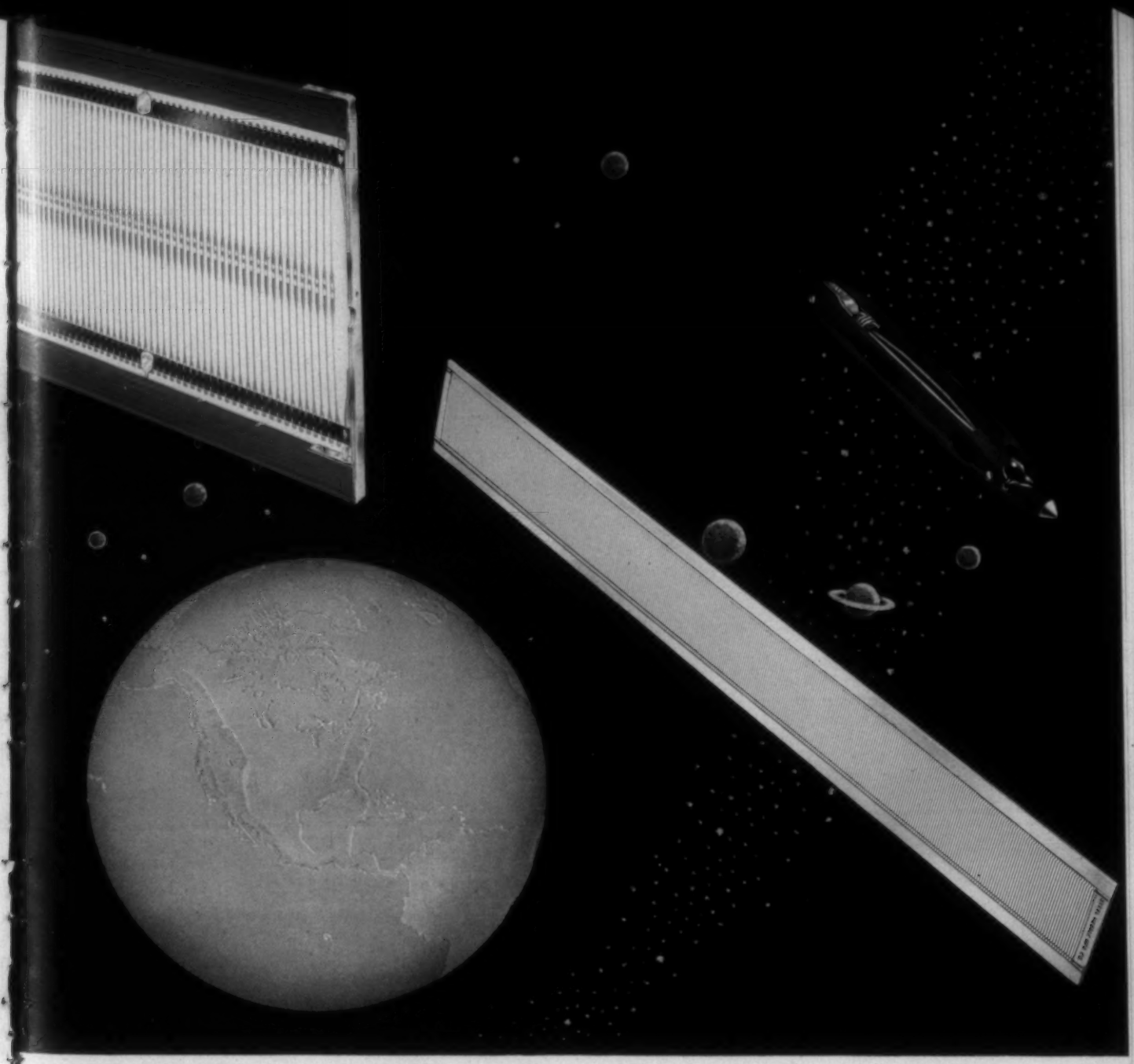


BATSON HAS THEM... and we will send them to you immediately. Orders will be filled the same day received... without delay, thus saving you lost time and money. Phone Greenville CEdar 2-7691 and relax — your order is already on the way!

LOOM [illegible]

P. O. Box 772

GREENVILLE, S. C.



Stehedco Quality Products and Service Make a World of Difference

Because textile profits depend upon long, trouble-free runs of perfect, high quality fabrics, weavers demand quality in their Heddles, Frames, Reeds and Shuttles.

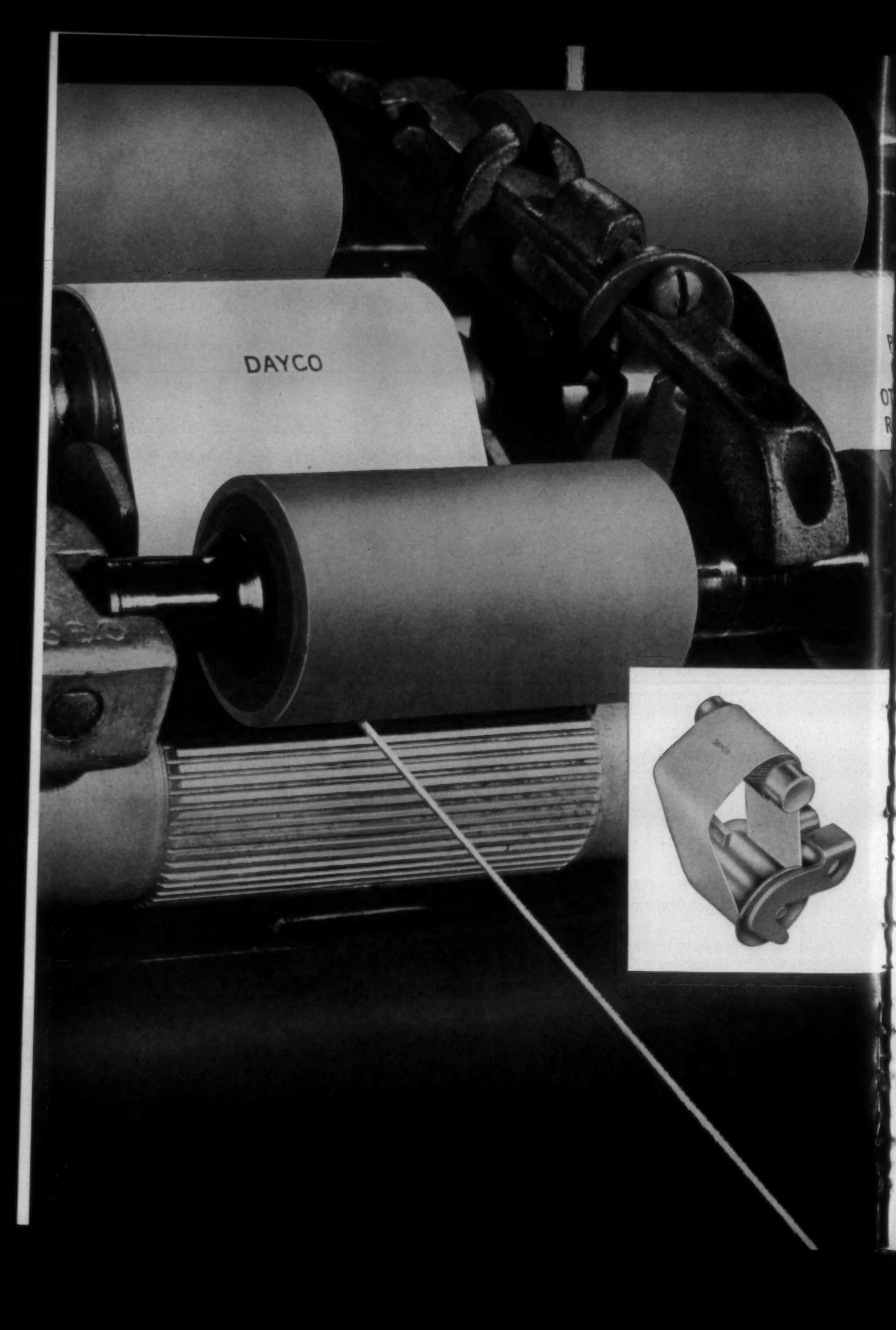
Because profits also depend upon having the right equipment —when it is needed—weavers look for superior service from their supplier.

It is significant that where quality and service are important, Stehedco is specified.

Learn more of Stehedco quality and service from your Stehedco Sales Engineer. Earn more profits by choosing Stehedco.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N.C. • Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.


DAYCO

Dayco's Combination of Cots and Embossed Design Aprons

Increases Yarn Quality 10%

A DAYCO EXCLUSIVE, Embossed Design Aprons are the first basically new design in over 20 years. Embossing the inside surface greatly reduces the coefficient of friction . . . cuts apron drag in half. That's why tests show no evidence of apron chatter or tucks forming ahead of the nose bar.

IT COSTS NO MORE to use the most advanced apron on the market, today. Yet you'll improve yarn quality 10% and reduce waste collecting at the nose bar by 50%. That's premium performance at a regular price.

PRODUCTION IMPROVES with faster Monday-morning start-ups due to the fact that fibers won't adhere to Dayco Cots and Embossed Design Aprons. Here's a drafting combination that's unaffected by lubricants or fiber oils and one that stays dry even when temperature and humidity begin to climb!

LONGER LASTING Dayco Aprons won't curl, stretch, or take a permanent set. Nor will Dayco cots pit, groove, or become glazed in the hardest service. This long wearing combination saves you added expense and nuisance of unnecessary replacements.

FOR GREATER OUTPUT of fine quality yarn, equip your frames with the fast starting combination of Dayco Cots and Dayco Embossed Designed Aprons.

Order from your Dayco representative the next time he calls or write the Dayton Rubber Company, Textile Division, 401 S. C. National Bank Building, Greenville, South Carolina

Dayton Rubber

Dayco and Thorobred Textile Products For Better Spinning and Weaving

OVERSEAS PLANT: THE DAYTON RUBBER CO., LTD., DUNDEE, SCOTLAND

Providence Braid Company, Providence, R. I. showing ductwork, air outlets and atomizers.

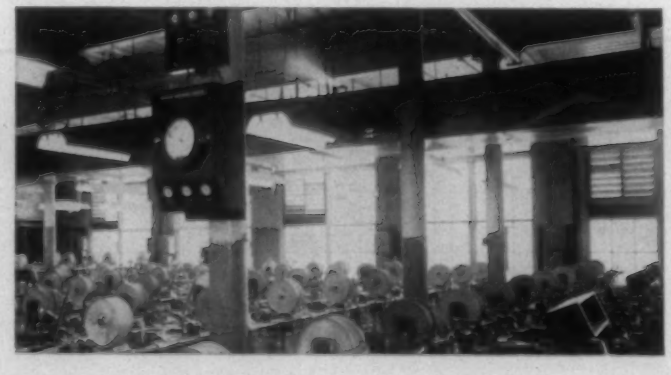
Is your humidifying system providing maximum cooling?

At Providence Braid Company an Amco Unit Dry-Duct system operates to control humidity precisely and, at the same time, to provide maximum cooling commensurate with the required evaporation.

As moisture from atomizers in a humidifying system evaporates, heat is absorbed and the air temperature is lowered. This cooling can be increased substantially by a positive ventilating system (such as an Amco Unit Dry-Duct system) which introduces fresh air uniformly throughout the mill room, thereby deliberately increasing the demand for evaporation in order to lower the temperature and maintain the selected humidity.

A unit dry-duct system consists of one or more air handling units, air ducts, room atomizers and pressure type window vents. When cooling is not required, recirculated air (instead of fresh air) is drawn into the unit, filtered and heated when necessary, then distributed through the ducts back into the room.

Amco's Unit Dry-Duct system is only one of several types of textile mill air conditioning systems which Amco engineers, manufactures and installs. For expert help, based on more than 70 years' experience, next time call on Amco.



◀ In same mill room, humidity control in foreground — window exhaust vents in background.

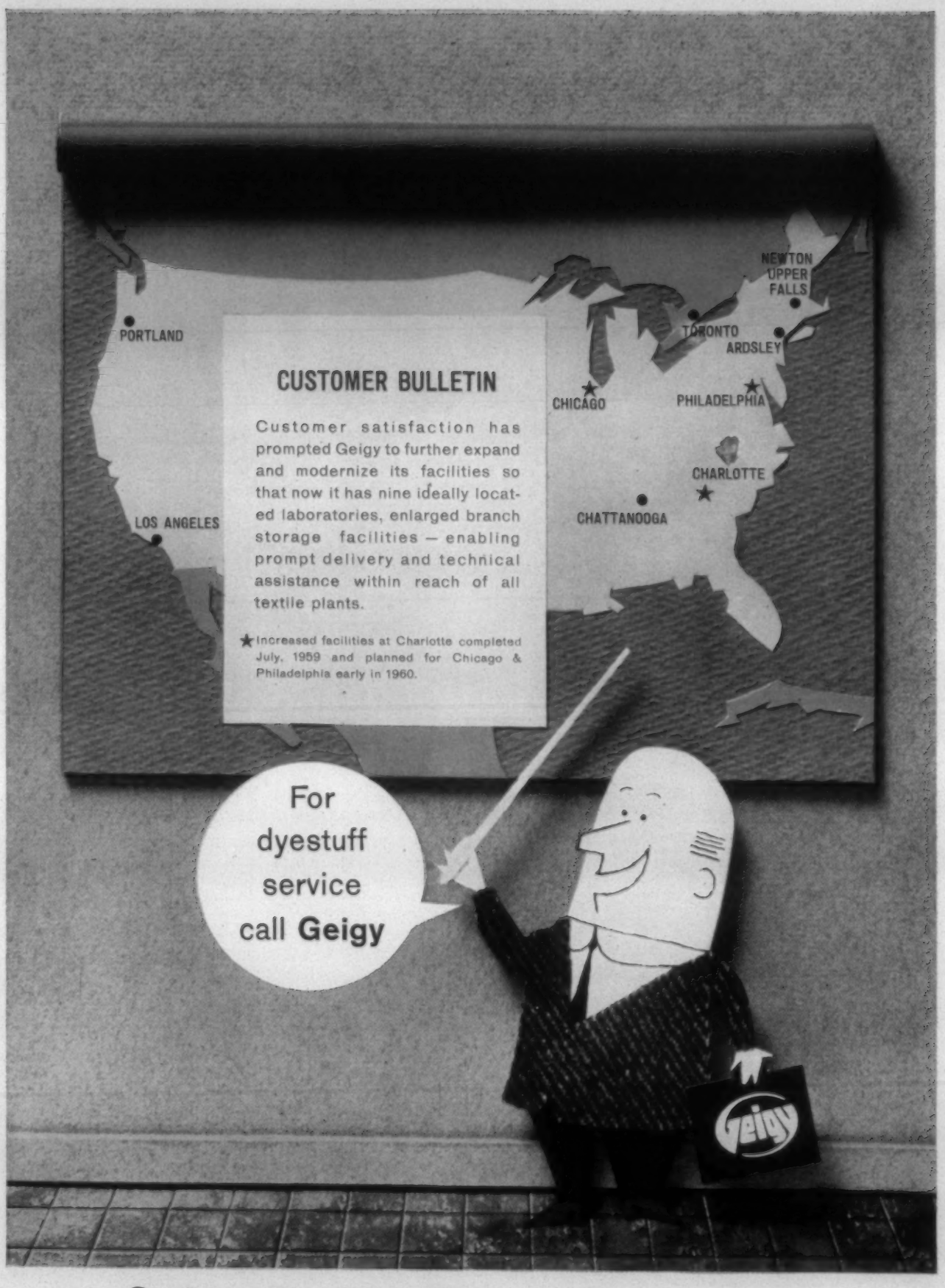
AMCO

SINCE 1888

AIR CONDITIONING EQUIPMENT

AMERICAN MOISTENING COMPANY, CLEVELAND, N. C.

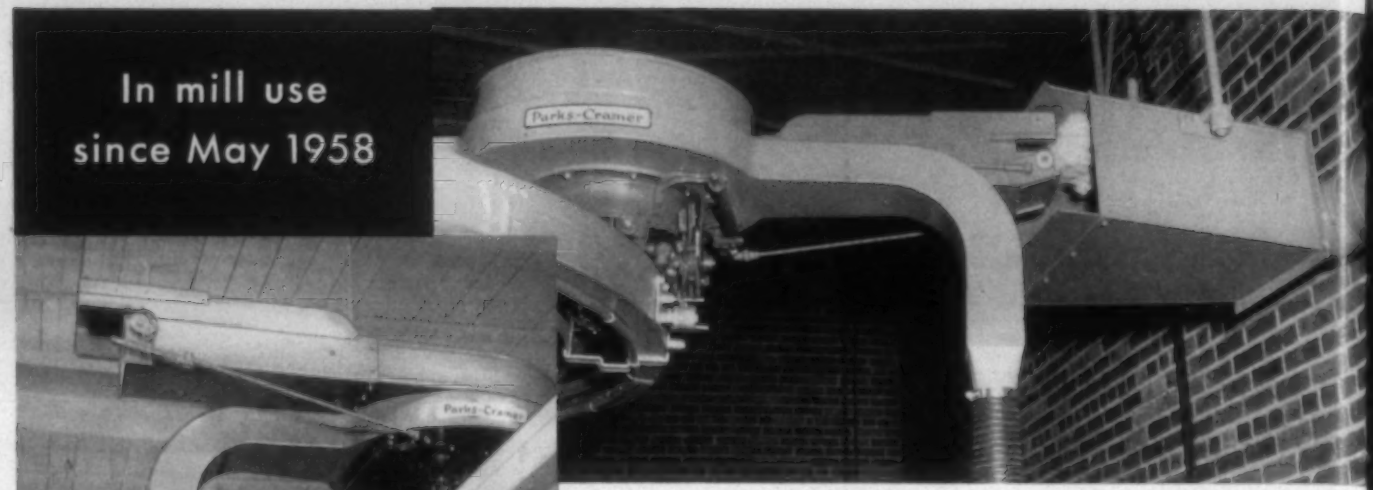
Branches: Atlanta, Ga. • Providence, R. I. • Toronto, Ont.

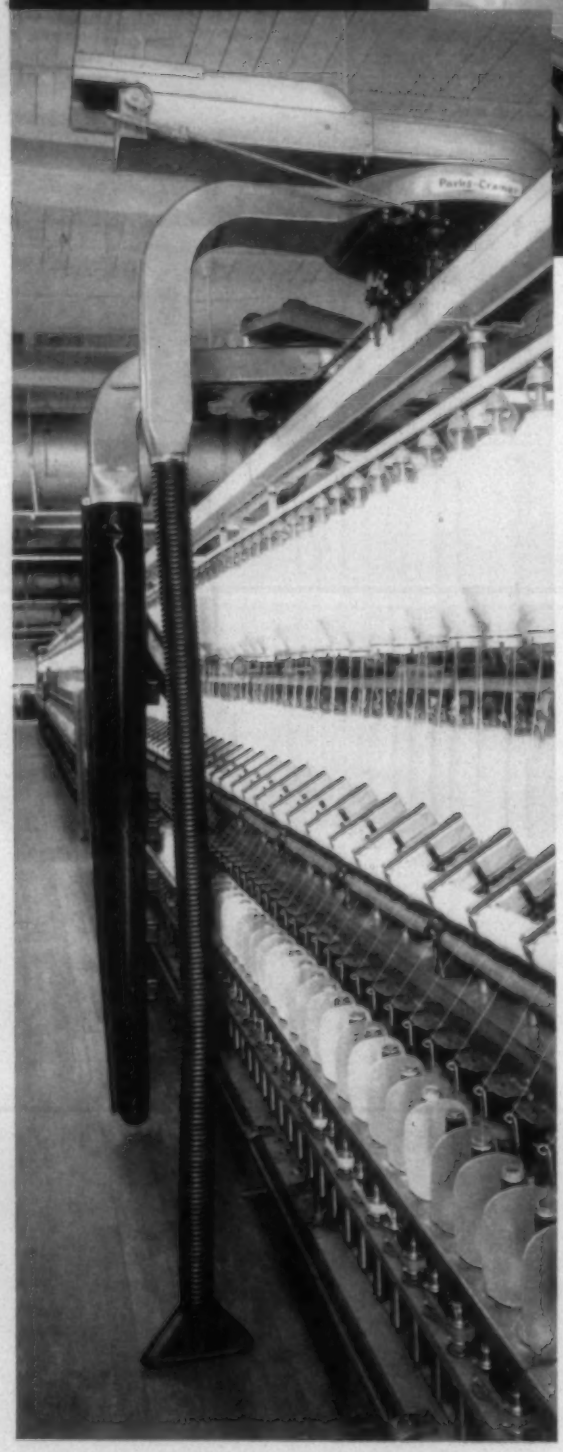


Geigy Dyestuffs Division of Geigy Chemical Corporation, Saw Mill River Road, Ardsley, New York

Parks-Cramer TravelVac

In mill use
since May 1958



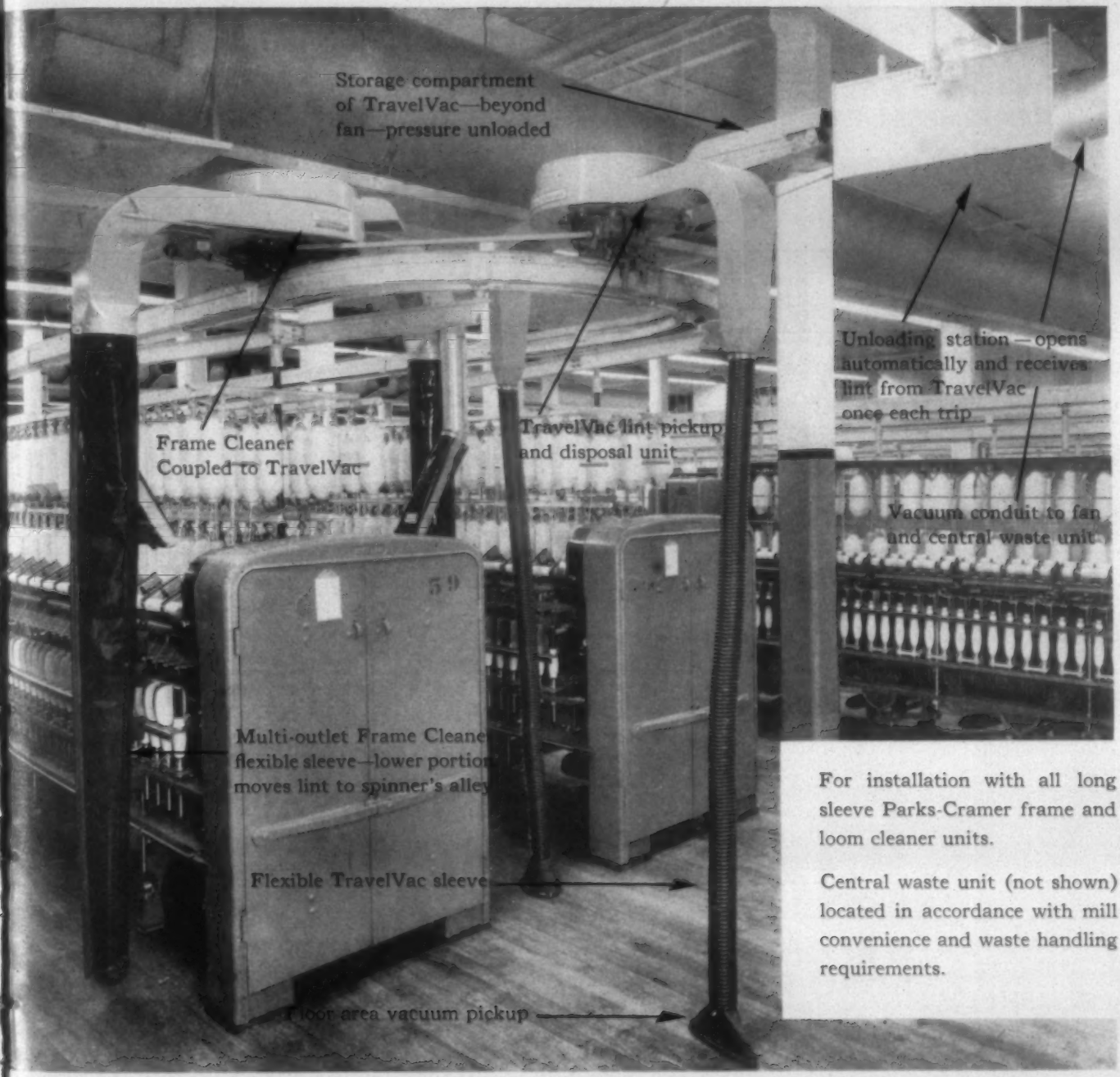


Fully automatic to central unit

The most important advance in the traveling cleaner art since the introduction of long flexible sleeves by Parks-Cramer in 1954.

- ✓ Less traveler loading
- ✓ Less ends down
- ✓ Less contamination
- ✓ Less spinning room labor
- ✓ Higher spindle speeds
- ✓ Better quality yarn and cloth
- ✓ More premium price waste collected

Lint Removal . . .



For installation with all long sleeve Parks-Cramer frame and loom cleaner units.

Central waste unit (not shown) located in accordance with mill convenience and waste handling requirements.

Benefits of Frame and Ceiling Cleaning are greatly increased by Parks-Cramer TravelVac.

415

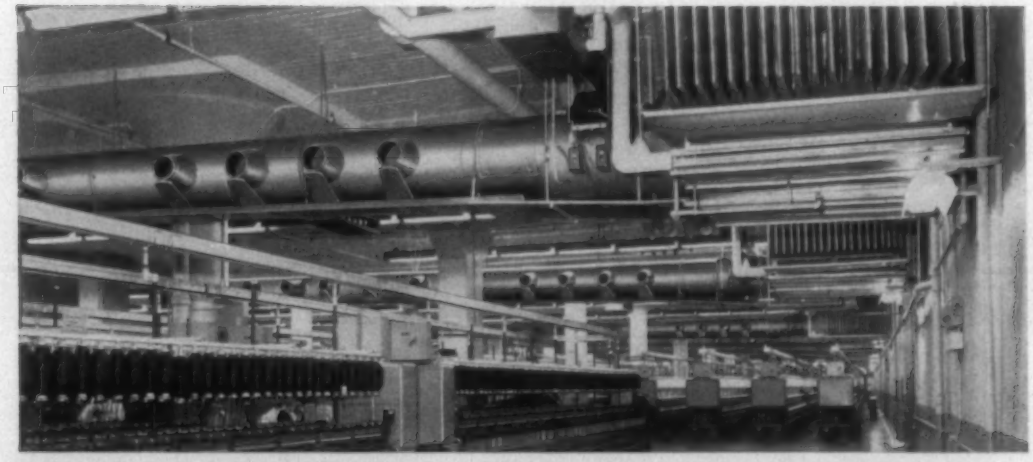
Traveling Cleaners since 1926

Parks-Cramer Company

FITCHBURG, MASS. CHARLOTTE, N.C. ATLANTA, GA.

DAN RIVER'S
1st CHOICE
5 TIMES

Says BASIL D. BROWDER
Executive Vice-President
Dan River Mills, Danville, Va.



BAHNSON HUMIDUCTS

WITH REFRIGERATION AND EASY-FLO FILTERS PROVIDE FLEXIBLE UNIT-SYSTEM AIR CONDITIONING AT LOW COST

Free Illustrated Bulletins
For full details write for Humiduct Bulletin 4A, Easy-Flo Bulletin 27A.

"Five times in our decade of modernization," says Mr. Basil D. Browder, "we chose Bahnson Humiducts for Spinning and Weave Rooms at Dan River. Humiduct's versatile unit design gives us control flexibility for production requirements . . . Easy-Flo Filters provide clean air, reduce cleaning time . . . overtime maintenance is eliminated with Humiducts. We found that Humiduct's low first cost and efficient operation gave us the most modern and economical air conditioning for our needs."

Bahnson AIR-O-MATION
AIR AT WORK FOR INCREASED PROFITS

THE BAHNSON COMPANY
WINSTON-SALEM, N.C., U.S.A.

A new name ...a new look

We've changed our name from UNIVERSAL WINDING COMPANY to LEESONA CORPORATION . . . simply because we've *outgrown* the old name. Our product line now extends far beyond winding machines . . . and our research staff continues to develop new textile machinery that will improve processes, eliminate waste, reduce costs, and make possible better quality. Look for our new trade-mark shown here. It stands for the finest in modern craftsmanship . . . textile machines that can improve *your* operations.

LEESONA CORPORATION, P. O. Box 1605, Providence 1, Rhode Island

CROWN'S NEW C-TRON

LOW FREE FORMALDEHYDE RESIN

. . . diminishes odor problems

often eliminates afterwash

While imparting high quality crease and shrink resistance, Crown's C-TRON resin solves formaldehyde odor-problems . . . both in the processing plant and in the finished fabric. Its extremely low free formaldehyde content has enabled many plants to eliminate the afterwash process entirely!

Crown's representatives will gladly give you complete details concerning the new C-TRON thermosetting resin including how it may solve any resin problems you may have involving deleterious effects upon light fastness of reactant type dyestuffs. Call your man from Crown — or write direct!

Crown Chemical

CORPORATION

240 INDIA STREET, PROVIDENCE, RHODE ISLAND

Peterboro, N. H., Greensboro, N. C., Burlington, N. C., (Warehouse), Greenville, S. C., Ware Shoals, S. C.
IN CANADA: Marwin Dyestuff of Canada Ltd. IN SWITZERLAND: Bubeck & Dolder, Basle, Switzerland.

BENEFIT FOUR WAYS from WHITIN Even-Draft* Drawing

1. Increased production
2. More uniform sliver
3. Lower costs in drawing and subsequent operations
4. Better quality yarn and fabric

Partial view — installation of 264 deliveries of Whitin Even-Draft Drawing at Riegel Textile Corp., Trion, Ga.

Mill after mill is proving that Whitin Even-Draft drawing provides 4-way benefits. Operating at 400 feet per minute Even-Draft drawing frames produce extremely uniform sliver — reduce floor space and direct labor cost by as much as 50%. The improved sliver, and consequently better roving, results in greatly improved spinning room performance. Mills also report fewer ends down, increased yarn breaking strength and evenness. Weaving operations benefit from stronger yarn and mills agree that fabric quality has improved following the installation of Whitin Even-Draft drawing frames.

Now installed in more than 150 mills in more than 40 countries, these frames continue to make profits for their users.

*Trade Mark

For complete information ask your Whitin representative or write direct to us.

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

TEN-O-FILM starches and synthetics go hand in hand

Looking for a starch that's compatible with the adjuncts you use in warp sizing synthetics? Ten-O-Film is your answer. This chemically modified starch derivative was specially developed to simplify and improve processing of both the new synthetic and natural fibers.

Ten-O-Film brings new economies to sizing operations. It requires less boiling time than conventional starches: Ten-O-Film reaches stable viscosity in 30 minutes and remains stable even under prolonged heating and circulation. Desizing can be carried out more readily, hence more economical dyestuffs can be used and with greatly reduced bleeding. The clarity of Ten-O-Film sizes will not mask the bright or pastel shades so widely used in modern fabrics. In desizing, the soap boil-off may sometimes replace the enzyme desizing process.

These are only a few of the advantages of using Ten-O-Film starches. Our technical representative will give you the complete Ten-O-Film story. He has tried and tested formulations for all popular synthetic and natural fiber blends.

The technical facilities of the world's largest corn processors await your call. These facilities include laboratories devoted to continuing research in textile technology, as well as unmatched sources of firsthand textile knowledge and experience. Our technical representative will be glad to help you take advantage of these resources. For full information, call our nearest sales office or write direct.

TEN-O-FILM® starches

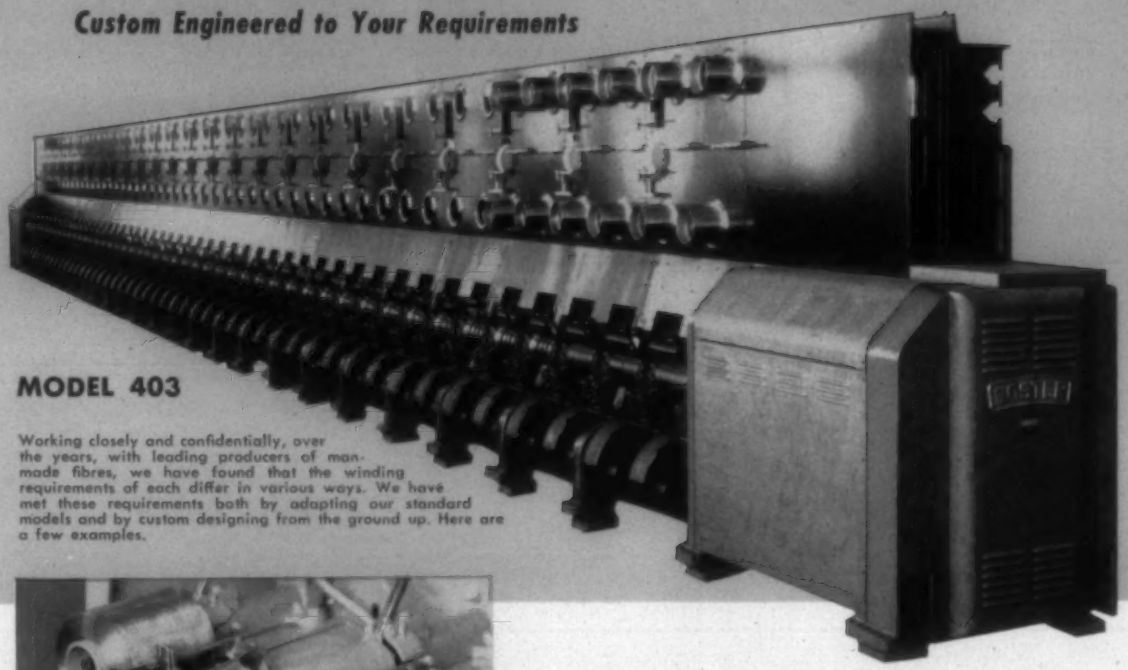
Fine products for the Textile Industry: CLARO® · GLOBE® EAGLE® · FOXHEAD® · TEN-O-FILM® starches · GLOBE® dextrines

CORN PRODUCTS SALES COMPANY 17 BATTERY PLACE, NEW YORK 4, N.Y.

FOSTER TAKEUP WINDERS

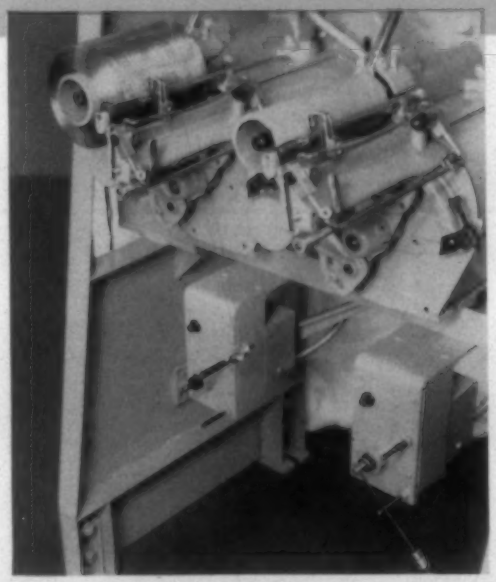
For Meltspun, Wetspun and Dryspun Yarns

Custom Engineered to Your Requirements

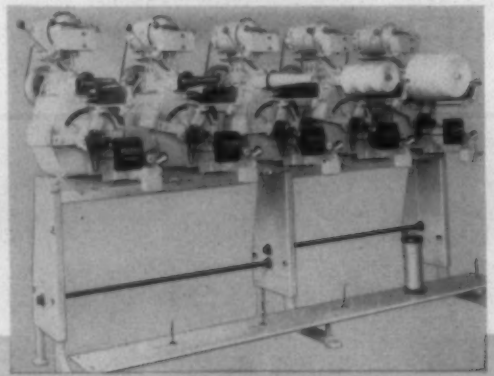


MODEL 403

Working closely and confidentially, over the years, with leading producers of man-made fibres, we have found that the winding requirements of each differ in various ways. We have met these requirements both by adapting our standard models and by custom designing from the ground up. Here are a few examples.



SECTION OF TENSIOMATIC



MODEL 78

MODEL 403 FOR MELTSPUN YARNS

This machine was originally designed to the specifications of one producer, although the design has been modified from time to time to meet other specifications. Its major features are as follows: —

1. Ribbon breaker eliminates ribbon wind.
2. May be equipped to wind 4 packages with 1" traverse, 2 packages with 2½" traverse, or 1 package with 5¼" traverse.
3. Pressure of package on driving roll automatically adjusted as weight increases.
4. Package core (6⅛" outside dia.) held by torroidal spring chuck, actuated by a handle which also serves as a brake.
5. Guards prevent yarn from wrapping around drive roll shaft.
6. Speeds up to 6000 feet per minute.

TENSIOMATIC FOR WETSPUN OR DRYSPUN YARNS

This is a standard model but is frequently modified to meet special requirements. It winds continuously direct from the spinneret to 6" traverse packages (1 or 2 per position), or to 10" traverse packages weighing up to 30 lbs. It delivers a precise wind at speeds up to 450 feet per minute. As the package builds up and the yarn speed increases, the speed of the motor is automatically decreased by means of dancer rolls and electronic control.

MODEL 78 FOR WETSPUN OR DRYSPUN YARNS

This machine, when used for takeup winding, is equipped with a torque motor and dancer roll mechanism. It is suitable for the coarsest yarns and winds 10" traverse packages up to 16" in diameter and 30 lbs. in weight.

What are your takeup winding requirements? We will work with your engineers, in the strictest confidence, to satisfy them.

FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

Westfield, Massachusetts, U.S.A.

638-8

Southern Office—Johnston Bldg., Charlotte, N. C. **Canadian Representative**—Ross & Whitehead Company Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont. • **European Representative**—Muschamp Textile Machinery (Sales) Ltd., Eider Works, Wellington Road, Ashton-Under-Lyne, Lancashire, England

ATMA
American Textile Machinery Exhibition - International
Parade of Progress
ATLANTIC CITY, U.S.A.
MAY 30-JUNE, 1960

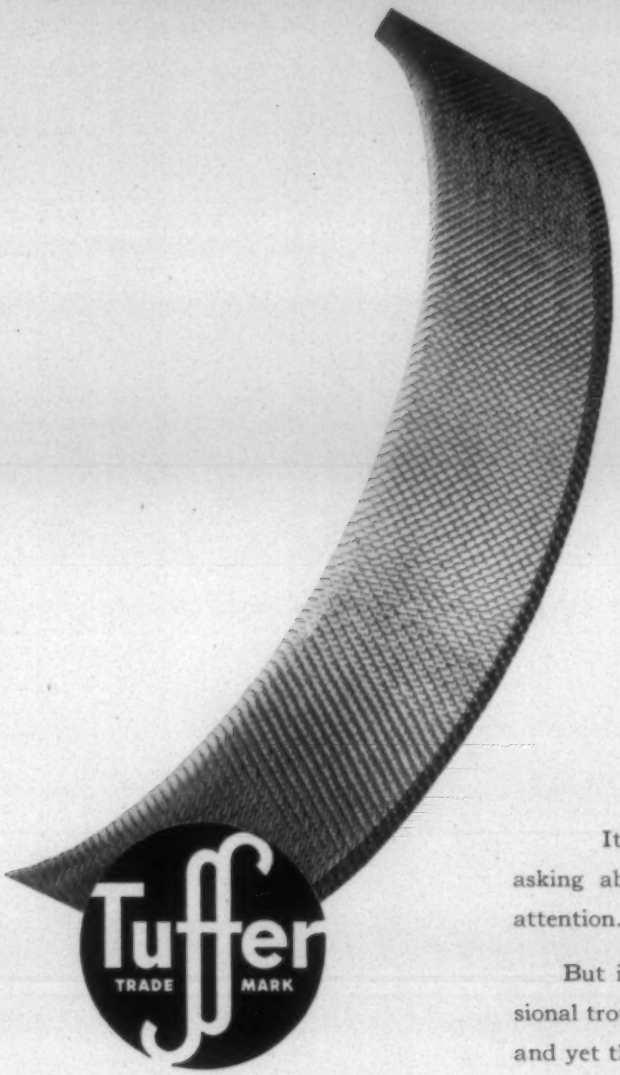
There are over 30 gears on a Hi-Speed Draper X-2 Model Loom*. Each is of a different shape and size, and contributes in some way to the efficiency and operation of the loom. Draper gears are designed and manufactured to

*Average X-2 Model

fit the Draper Looms in your mill. Draper gears cost less . . . because they wear longer, reduce down time and increase loom production.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.



What is YOUR Carding Problem?

It's not so much the **BIG** problems in the card room we're asking about. They're quickly recognized and get immediate attention.

But it's the pesky little ones . . . those that cause only occasional trouble. You're more apt to put them off "for a little while," and yet they are eating up useful production time.

It could be a little slippage on the roll,
or improper alignment of the teeth, due to jambs,
or points not properly ground,
or the need for a *special* clothing for synthetic fibres.

Little troubles can become **BIG** problems in time.

Check them *now*, with the help of a Tuffer Sales Engineer. He has the experience of over 90 years behind him—in both card clothing research and production.

Call or Write to Our Home Office
for Immediate Attention—No Obligation

TUFFER PRODUCTS

- Card Clothing for Woolen, Worsted, Cotton, Asbestos and Man-made Fibers
- Napper Clothing and Brushes
- Top Flats re-covered and extra sets loaned at all Plants
- Lickerins rewired at Southern Plants
- Hand Stripping Cards

HOWARD BROS.

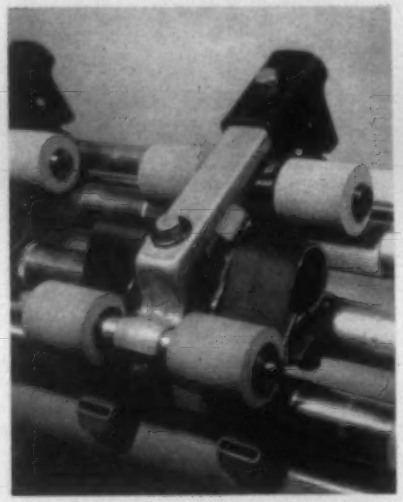
WORCESTER 8, MASSACHUSETTS
Southern Plants: Atlanta, Ga., Gastonia, N. C., Greenville, S. C.
Direct Representation in Canada

592

For The Textile Industry's Use

– NEW MACHINERY, EQUIPMENT AND SUPPLIES –

Drafting Changeovers



The Saco-Lowell Shops' Cleanguide drafting changeovers are said to be completely anti-friction and applicable to either Roth or Casablancas type spinning.

Saco-Lowell Shops, Boston, Mass., announces the acquisition of rights to sell and service in the U. S. and all foreign countries, spinning and roving drafting equipment manufactured by Machinecraft Inc., Whitman, Mass. Cotton-McCauley & Co. Inc. will also continue to sell and service Machinecraft's product line.

J. Woodward Hubbard, vice-president of sales of Saco-Lowell's textile machinery division, said, "Saco-Lowell sales engineers will work in close co-operation with the Cotton-McCauley organization to provide greater service to more customers."

New, improved Saco-Lowell Cleanguide drafting changeovers are completely anti-friction and may be applied to either Roth or Casablancas type spinning for use on cotton or short staple synthetics. There is no oiling; the only lubrication said to be required is re-greasing the Climax ball bearing front top roll every two to 2½ years. The other top rolls have nylon bearings. Other spinning and roving changeovers include Climax and Cleandraft top rolls for cotton, worsted and wool.

The Saco-Lowell Cleanguide double apron support unit is a part of the knurled middle line top roll and is fitted into position within the bottom Cleanguide center-supported saddle assembly. It in no way contacts the middle bottom steel roll enabling all of the top center supported units to be of anti-friction type.

The open design of this new system is said to eliminate the usual type cradle sizes and allows easy cleaning either by roll pickers or by air pressure.

The unique apron nose bar assembly, called the Vari-Tensor, has several millimeter openings which can be quickly changed without removing the assembly from the spinning frame. The apron nose bars are referred to as tensors. The top or bottom tensor or both can be changed to obtain the various millimeter openings at the nip of the aprons. This eliminates the need for stocking additional parts or adjusting components. Mill installations have proven that this ability to alter the space between the tensors gives better control to the fibers and contributes to increased yarn breaking strength and reduced end breakage per M.S.H. as much as 50%.

Saco-Lowell Cleanguide is adaptable to many existing drafting elements without the need for extensive bottom roll changes, according to the company. Roll stands, Saco-Lowell bottom steel rolls and gears and new spring weighting are furnished when required. (Request Item No. K-1)

Faultfinder

Parr Mfg. Co. is offering the Brunt Faultfinder for the detection of accidental grounds.

The Parr Mfg. Corp., Newark, N. J., is offering to the textile industry a new streamlined version of the Brunt Faultfinder for the detection of accidental grounds on power systems. The new model weighs one-third less and has been redesigned for easier handling and more efficient use. The model has already been put in use by Burlington Mills, The Du Pont Co., West Point Mfg. Co., Coats & Clark, Cone Mills, Firestone Textiles, American Bemberg, North American Rayon Corp. and the American Viscose Corp.

The unit now weighs 18 lbs. and has double earphones as standard equipment. It is a combination ground detector and fault locater which is said to quickly locate accidental grounds on power systems, both a.c. and d.c. up to 600 volts, while the system is energized. Since it imposes only 2 amps. on the circuit, it cannot damage equipment on the line. (Request Item No. K-2)

Dye Carriers

Emkay Chemical Co., Elizabeth, N. J., has developed two new products of interest to dyers of fabrics made from polyester and triacetate fibers.

Emkalar Base E-55 is an emulsifier with which dye plants can make their own carrier with great economy. It will emulsify four times its weight of O-dichlorobenzene, three times its weight of Butyl Benzoate, twice its weight of O-Phenyl Phenol or Bi-phenyl or an equal weight of Methyl Salicylate, according to the company.

Emkalar 527, a new prepared carrier, is a clear, bright oil otherwise described as a "liquid dispersion of O-Phenyl Phenol." This product is said to be easily dispersible even in cold water and stable in storage. In dyeing it produces deep shades with extremely fine color yield, the company reports. (Request Item No. K-3)

New Worsted Spinning Frame

An American system spinning frame called the Piedmont KW has been announced by Whitin Machine Works, Whitinsville, Mass. The KW is a worsted adaptation of the company's new Piedmont cotton spinning frame.

Higher production speeds, larger packages, and high quality worsted, synthetic and blended yarns are said to be features of the new Whitin American System spinning frame.

The new machine utilizes the Whitin

Whitin Machine Works has developed this worsted adaptation of its new Piedmont spinning frame.

MORE THAN 3½ MILLION SPINDLES NOW EQUIPPED WITH ROBERTS HIGH DRAFT

ROBERTS SPINNING NEWS

PUBLISHED BY ROBERTS COMPANY SANFORD, NORTH CAROLINA

WM-2 SANFORD, NORTH CAROLINA, U. S. A. 1959

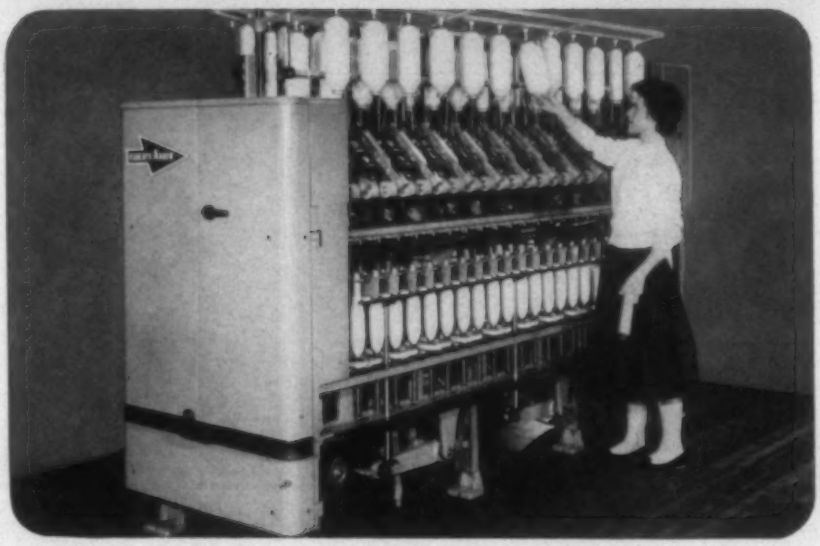
ARROW WM-2 LONG FIBER SPINNING FRAMES OFFER WIDEST YARN MAKING VERSATILITY

A dynamic program of new product design, advanced styling and aggressive merchandising is underway by all segments of the Textile Industry.

Knitting yarns of higher quality and greater interest are being called for in worsted, synthetics and blends. Finer weaving yarns up to 2 ply 80's are being called for and a great many blends are currently being explored. The longer fibers are in wide demand and the next few years should see a substantial boom in this field.

The demand for high bulk knitting yarns and the finer weaving yarns plus all of the newer fabric effects being created require fiber lengths from 3 to 8 inches long.

ARROW WM-2 frames are suitable for making yarns in any fiber length from 1½ to 8 inches. They provide great versatility in handling 100% synthetics, blends of synthetics, 100% worsteds and blends of worsted with synthetics in this range. Better quality yarns with greater evenness, bigger package sizes and higher production speeds are produced on ARROW frames.



- Spins yarn from any natural or synthetic fiber or any blend.
- PermaSet Drafting handles any fiber length from 1½ to 8 inches
- No roll setting changes needed at any time
- Great versatility for changing yarn numbers, twist, draft, ring size, and spindle speed
- Drafts as high as 24 on worsted, 60 on synthetic
- Produces yarn with better evenness and greater breaking strength
- Ball bearing top and bottom rolls eliminate all lubrication in drafting zone
- Almost ideal spinning conditions from delivery roll to spindle
- Runs at higher front roll, traveler and spindle speeds
- Reduces ends down by more than 50%
- Puts twice as much yarn on the bobbin as older frames
- 12-inch bobbins reduce winding costs
- Very rugged, most durable machine ever built for yarn spinning
- Frame is built in the wide-stance 36-inch width
- Uses ball bearings at every moving, turning or oscillating motion
- Substantially lowers electric power consumption
- AeroCreel for single or double roving
- Frame arranged for practical application of overhead cleaning and vacuum floor sweeping

Roberts ShortFlo System for Making Long Fiber Yarns

Roberts Company offers complete technical service in adapting its ShortFlo System for the production of long fiber yarns. This includes the complete yarn manufacturing process starting with tow converters, blending machines, pin drafting, roving frames, spinning frames, winders and twisters.

Where mills have existing equipment, full consideration is given to utilizing it whenever possible. Or, if a new long-fiber program is planned, all machinery can be specified, and the complete yarn organization set up.

The ShortFlo System for making long fiber yarns requires a minimum number of processes. Many doublings are provided to insure exceptionally good blending of fibers, improved evenness and better strength.

FOR THE TEXTILE INDUSTRY'S USE—

Long-Draft two-apron system and a new top arm and weighting arrangement. It is only 27" wide and features streamlined design, individual side-shaft spindle drive, straight line spinning, and two balloon control rings. All gearing is enclosed in the head end, and the machine has a built-in system for waste removal and also for dispersing motor heat from the frame. A new, efficient top arm with internal precalibrated springs for supplying weight to the top roll has been designed.

Instantaneous control of ratch or spread between the middle and back roll is also available. Maximum ratch is 9½".

This drafting arrangement will handle fibers from 1½" to 8¾" with appropriate ratch settings and roll diameters, the company reports.

Mill and laboratory tests indicate that increase in production ranging from 20 to 30% may be secured. Normal gauges will be 4" to 4½", and ring sizes can be supplied from 1½" to 3½" depending upon the gauge of the frame. Traverses up to 11" may be used. (Request Item No. K-4)

Safety Glasses

Low-cost, universal-fit safety glasses, announced by Willson Products Division of Ray-O-Vac Co., Reading, Pa., feature a patented-bridge design that is said to fit 95% of all faces. It was developed to meet a need in industry, particularly in small plants, for an effective eye-protection program without large inventory and individual fitting by trained personnel.

The nose pads and rounded universal bridge of the new safety glasses form a broad, continuous bearing surface. This distributes the weight of the glasses and assures complete comfort even with all-day wear.

A big advantage to users of the one-size bridge MonoSpec is that correctly fitted glasses can be supplied on short notice from a very small inventory to new employees, or as a replacement for a broken pair. This avoids lost production time due to accidents, carelessness, and loss of glasses by workers.

The new Willson safety glasses are equal in style to streetwear glasses. Smart appearance of the sturdy, flesh-colored, plastic frames and wire-core spatula temples is said to stimulate co-operation of employees in company eye-protection programs.

Two lens sizes are said to provide wide peripheral vision and effective protection. MonoSpecs are available with a choice of spatula or plastic-cable temples. Both options can be adjusted easily by the wearer for maximum comfort.

(Request Item No. K-5)

Slasher Roll Covering

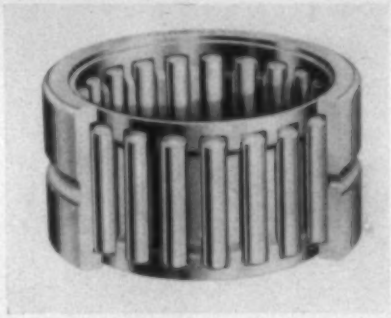
A new textile slasher roll covering has been introduced by Stowe-Woodward Inc. Called Sealskin, the new covering reportedly eliminates the common problems of blistering, cracking, crazing and swelling.

Designed to provide maximum operating efficiency, Sealskin is said to resist all types of sizes and is used interchangeably in the front and back positions. The manufacturer claims the covering, because of its uniform density, affords a consistent size pick-up and thus provides a closer control of the sizing operation.

The special compound used in the manufacture of the Sealskin covering has a soft surface that protects the warp threads from breakage. A further characteristic is wear resistance. According to Stowe-Woodward, the Sealskin covering has outlasted other covers by 100%. Users have reported the cover gives as much as 25% longer service between grindings.

(Request Item No. K-6)

Roller Bearings



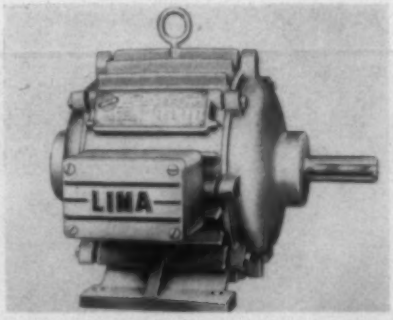
The Torrington Co. has introduced this new roller bearing with patented cage design.

A new series of channel-shaped outer ring roller bearings introduced by The Torrington Co., Torrington, Conn., features a new, patented cage design. Utilization of the cage design permits application of the bearings at speeds higher than those attainable with full complement types. Longer and larger rollers in these standard inch-size cage-type roller bearings are said to result in greater capacities than previously available. Made in sizes ranging from ¾" to 4" bore, and designated as series HJ, the bearings may be applied directly to hardened and ground shafts or used with inner rings which are also available.

(Request Item No. K-7)

Fan Duty Motor

The Lima Electric Motor Co., Lima, Ohio, a subsidiary of Consolidated Diesel Electric Corp., has announced the availability of its Type EFD Fan Duty Motor in



This Type EFD Fan Duty Motor, produced by Lima Electric Motor Co., is available in ½ through 15 h.p. sizes.

Here's how PNEUMASTOP pays off!

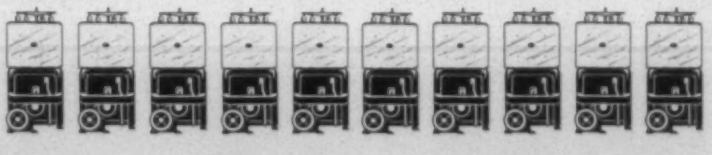
PNEUMASTOP air-cleans and preconditions each strand of roving with ten cubic feet of air per minute. Moisture is added and loose lint and trash are removed to assure *clean, better running* roving on the spinning frame.

Exhaustive ends down tests comparing "PNEUMASTOP quality roving" with ordinary roving prove that *savings* in spinning costs *alone* will pay two-thirds of PNEUMASTOP'S cost in just one year.

PNEUMASTOP'S dual stop motion stops the frame on creel breaks and sliver run-outs *instantly*, leaving a piecing tail. Broken ends are under control at all times, (even during traverse change) and flyer picking and cleaning time is substantially reduced. These *exclusive* features allow roving tenders to handle more frames than with any other type of stop motion!

Remember this!

One set of PNEUMASTOP

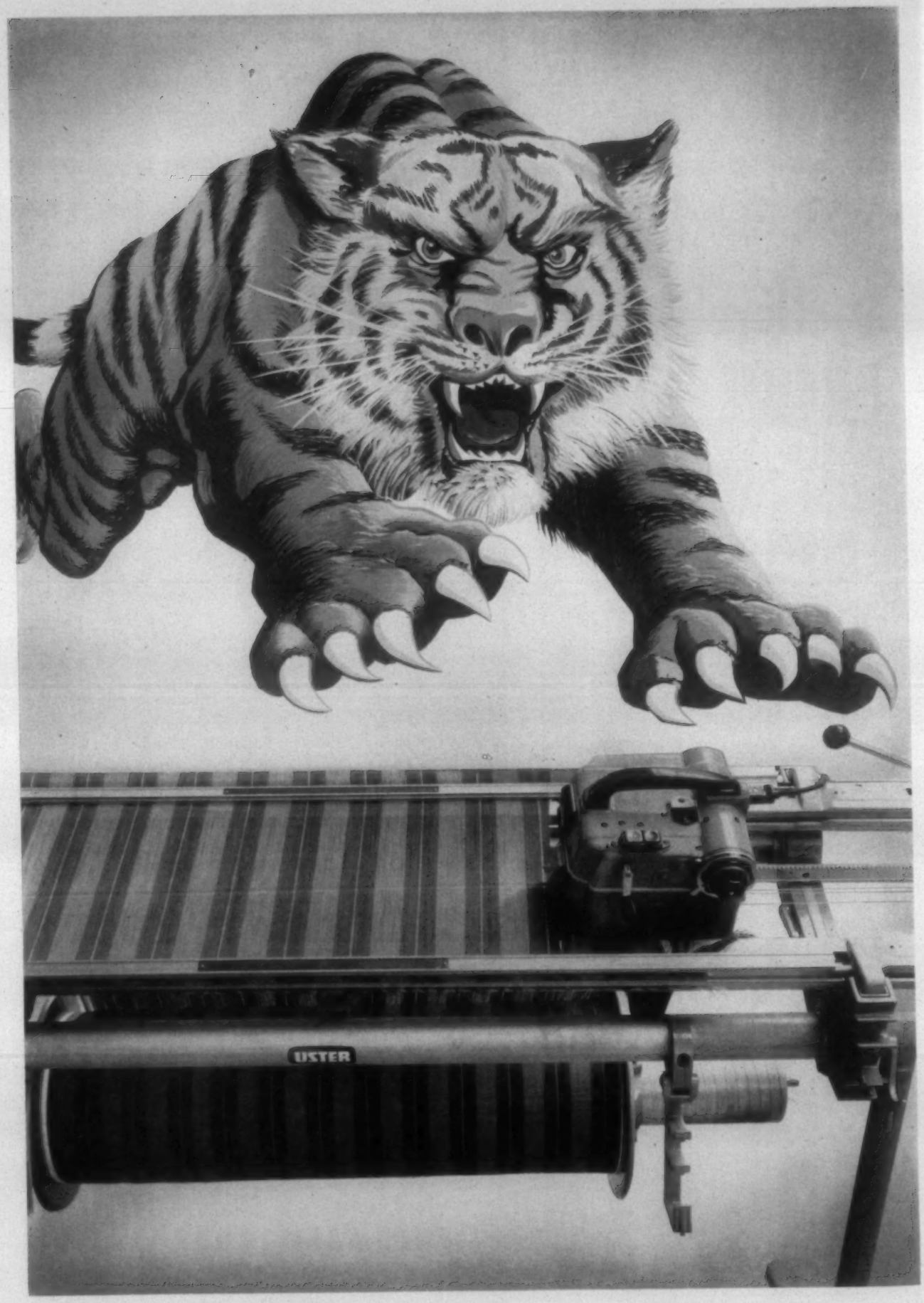


improves the running quality of ten spinning frames in the average mill.

For more information please contact . . .

PNEUMAFIL CORPORATION

CHARLOTTE 8, NORTH CAROLINA


USTER

This TIGER leaps five years ahead!

USTERMATIC RIPS DOWN HIGH COSTS OF WARP TYING

Ustermatic wipes out old-fashioned warp tying. **Ustermatic** has demonstrated dramatic speeds up to 700 knots per minute on a flat-lease 72" warp.

Under day-to-day mill operating conditions, **Ustermatic** can tie from 550 to 650 knots per minute. The net result is efficient reduction in down time for warp tying of all looms.

Ustermatic is a powerful tool to keep looms at maximum production.

SAVES $10,000 FIRST YEAR WITH ITS MACHINE GUN SPEED

On a single colored cotton warp of 4000 ends and 43½" wide, the **Ustermatic** system of warp preparation requires, at most, 5 minutes. **Ustermatic** ties at 600 knots per minute. TOTAL TIME: **12 minutes.**

Current obsolete methods require an average 15 minutes warp preparation, then tying at 400 knots per minute. TOTAL TIME: **25 minutes.**

The **Ustermatic** system cuts warp tying IN HALF.

USTERMATIC RELEASES ONE MAN EACH SHIFT

The **Ustermatic** system of zone warp replacement releases one man on each shift for other jobs in the mill.

Substantial savings in the weave room are immediately obvious.

DEMANDS OF THE INDUSTRY DESIGNED USTERMATIC

The largest weaving mills have unstopped many bottle-necks, but warp-tying still shows as a significant figure on annual cost sheets.

Ustermatic punctures 30-year-old notions of slow-down warp tying. With **Ustermatic**, the warp-tier can't be slow.

Ustermatic is fully universal, will tie every known warp material. Multicolored warps from a lease with maximum count variations are tied perfectly at high speed.

Flat lease or combination, **Ustermatic** handles the complete yarn range.

SEE THE USTERMATIC TIGER AT WORK IN THE USTER SHOW ROOMS THROUGH NOVEMBER. WRITE OR PHONE USTER CORPORATION, CHARLOTTE, N. C.

USTERMATIC

USTER CORPORATION
CHARLOTTE, NORTH CAROLINA

CANADIAN SALES OFFICES:
Hugh Williams & Co., 27 Wellington Street East, Toronto 1, Ontario

rerated N.E.M.A. frame sizes 182 through 326U (½ through 15 h.p.). These motors are furnished in speeds of 1,800, 1,200 or 900 r.p.m. as required.

The Lima "air-over-motor" fan duty motors feature, in addition to totally enclosed housings, deep external cooling fins that are said to assure adequate cooling with a reduced transverse section to give lowest wind resistance. All cooling surfaces are said to be readily accessible for cleaning if necessary. Duty rating is continuous and temperature rise is rated at 55° C.

Other construction features of rerated Lima Type EFD motors are: Rigid seasoned cast iron frames with integral feet; die cast rotors, dynamically balanced; double-width prelubricated sealed ball bearings which require no greasing or cleaning for normal life; windings of heavy multi-coated insulated wire which provide high dielectric and mechanical strength; stators impregnated with moisture resisting, thermo-setting varnish and baked in temperature controlled ovens; accurate maintenance of uniform air gap between rotor and stator is accurately maintained; stators tested in accordance with N.E.M.A. specifications; and a roomy connection box that can be rotated to make connecting easier.

Lima Type EFD motors are available for 3 or 2-phase operation in all standard frequencies and commercial voltages below 600 v., as required.

(Request Item No. K-8)

Red Dye

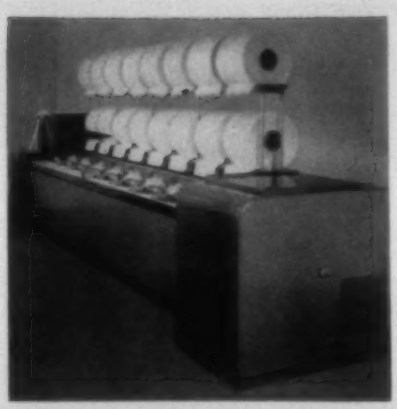
Said to be the first red dye fast to light and sublimation on polyester fibers, Foron Scarlet 3GFL ultra-dispersed p.a.f.. is the latest addition to the new line of dispersed dyes for man-made fibers by Sandoz Inc., New York City. Fastness to washing, light, perspiration and sublimation are said to be outstanding on the polyesters and on triacetate, for both dyeing and printing. For wool/polyester blends, the wool reserve is superior to previous offerings, and any staining may be entirely removed by standard cleaning methods. Dispersions of Foron Scarlet 3GFL ultra-dispersed p.a.f. may be used at temperatures up to 284° F.

(Request Item No. K-9)

High Speed Comber

The American Rieter Co., West Caldwell, N. J., has announced the availability of a new cotton comber, Model E 7, built by John Jacob Rieter & Co., Winterthur, Switzerland. The new unit has eight combing heads, 17" gauge and works on the Nasmith principle with oscillating nippers. The new design is said to be simple, possess fewer component parts than any other comber, and to be easily set and controlled.

In addition to the four "classic" functions performed by many combers: (1) cleaning; (2) staple improvement; (3) parallelizing the fibers; and (4) uniformity of sliver; the new Model E 7 is reported to have many other advantages. Better sliver —in respect to cleanliness, evenness and staple length—is reported to be possible



American Rieter Co. is now offering the Model E 7 cotton comber built by Joh. Jacob Rieter & Co. of Winterthur, Switzerland.

by more accurate settings, improved combing action, better detaching and piecing, asymmetrical fleece trough, more effective alignment of the fibers, widely adjustable top roller weighting, continuous lap feed with tension compensation, and spiral fluting on detaching and drafting rollers.

Higher output, up to 61 pounds per hour, without loss of quality is said to be possible by the new comber because of higher number of nips per minute (up to 180), heavier lap feed, and better efficiency. Fewer unproductive stoppages are said to be a feature of the E 7 since it has anti-friction bearings at all vital points, dust-proof gears, headstock with oil bath, electric control system, large lap and can sizes, and thorough stripping of the circular combs without interrupting the flow of material.

Lower labor costs are reported for the Model E 7 because of simplified setting, control and maintenance. An arrangement for reducing the detaching distance down to 15 m.m. permits the use of shorter fibers than previously possible. The new comber also has a choice of forward or backward feed and easy adjustability of noil percentage between 5 and 25%.

Rieter reports the new comber operates with less power, in relation to output, and is practically vibration-free even at high operating speeds. The Model E 7 is said to give longer service because of its sturdy over-all design, various safety devices and reliable lubrication system.

Space requirements for the Model E 7 are less than for previous comber models. This is true in spite of the 12" lap width and large can sizes. Space savings are possible because of a new gear arrangement, short gauge as compared with any other comber, and a tapering delivery table. The lower headstock of the Model E 7 improves visibility and, therefore, simplifies supervision and control. (Request Item No. K-10)

I.B.M. Data Processing

The International Business Machines Corp., White Plains, N. Y., recently demonstrated via closed circuit television in a number of cities some new products for increasing data processing power. Among the units demonstrated were: The all-transistorized 1401 Data Processing System and

NO WICKS MEAN
CLEANER PRODUCTS·
FASTER PRODUCTION·
LESS MAINTENANCE

It's the New HERR "M" TYPE Conical Ring

The best equipped textile mills in the United States have been gaining experience with Herr "M" type Conical Rings and have reported wonderful success during the past four years. They report a definite control of lubrication far superior to any wick lubricated ring. They have achieved a reduction in oil, a saving in maintenance, an increase in spindle speed, a reduction in yarn breakage, and have produced a much cleaner yarn.

The new "M" ring makes use of a different principle of carrying the oil to the bearing surfaces of the ring where it is needed. It is called capillarity and, because the distribution is so complete, less oil is required.

Phone us today — order enough "M" Rings to convert a machine. You will be pleased with the results of your test.

The 5" diameter $4\frac{5}{64}$" face Herr Conical Ring requires only one oil cup.

HERR

MANUFACTURING CO., INC.

312 FRANKLIN STREET, BUFFALO 2, NEW YORK

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

FOR THE TEXTILE INDUSTRY'S USE—

a modification for the RAMAC 305 system which increases processing speed.

The all-transistorized 1401 Data Processing System is said to place the features found in electronic data processing systems at the disposal of smaller businesses, previously limited to the use of conventional punched card equipment. These features include: high speed card punching and reading; magnetic tape input and output; high speed printing; stored program; and arithmetic and logical ability.

The elements of this system are: the processing unit, the card read-punch, and the printer.

The processing unit controls the entire system. It performs arithmetic, and logical functions, controls card reading and punching, magnetic tape input and output, and tells the printer what to print and where to print it. In one minute it can perform 193,300 additions (eight-digit numbers) or 25,000 multiplications (six-digit numbers by four-digit numbers).

The card read-punch unit reads card information into the processing unit, punches cards and separates them into radial stackers. It reads cards at the rate of 800 per minute and punches them at the rate of 250 per minute. Reading and punching can be performed simultaneously.

The printer features a horizontal chain of letters (similar in appearance to a bicycle chain) operated by 132 electronically-timed hammers spaced along the printing line. The characters on the chain are compared by the printer with characters in storage designated to be printed. When the letters match—the hammer is fired. The unit prints at the rate of 600 lines per minute. It skips past blank lines many times faster than regular printing speed, increasing its overall speed.

Up to six 729 Magnetic Tape Units may be added to the 1401 system for increased input, speed and storage compactness.

The new modification for the RAMAC 305 system can be field installed to provide a significant reduction in processing time for the majority of RAMAC applications, according to the company.

(Request Item No. K-11)

Belt Conveyors

New Series L belt conveyors, developed by The E. W. Buschman Co., Cincinnati, Ohio, offer low initial cost and continuous economy for inclined or horizontal operation. Equipped with non-slip belting, the conveyors are said to be highly efficient for inter-floor movement of goods or for use as a booster in a gravity conveyor line. With smooth belting, the new units offer advanced design features for assembly line or processing table use.

Available in 12", 16", 20" and 24" belt widths, the new conveyors are furnished in 2½' increments. Since the drive and take-up ends are 2½' from pulley centerline to splice, a 5' minimum center conveyor is basically provided. This can be increased by adding 2½, 5, 7½ and 10' bed sections. Either slider or roller bed construction can be selected.

A complete line of L series belt components includes: compact chain drive for 50 f.p.m. belt speed (1/3 to 1 h.p. motor); safety release roller; straight or noseover delivery; box frame intermediate sections; gravity wheel feeder; power feeder; adjustable floor stands; truss rail for long span; adjustable continuous guard rail; and connection for Quick-Eez wheel or roller sections.

Sample total load capacity for a 1 h.p. motor and 50 f.p.m. is as follows: Horizontal: slider—900 lbs., roller—2,400 lbs.; 25° Inclined: slider—400 lbs., roller—600 lbs. (Request Item No. K-12)

High Intensity Stroboscope

A new high intensity stroboscope, Model 510-AL, is available from the Herman H. Sticht Co.

The Herman H. Sticht Co., New York City, has announced the availability of the new Model 510-AL high intensity stroboscope covering all speeds from as low as 60 r.p.m. up to 15,000 r.p.m. The stroboscope is said to be of advanced design and to incorporate a new type of brilliant blue-white daylight flasher tube of high intensity which provides sharp images at all speeds, and makes readings even in normal daylight possible. Flash duration is on the order of 1 micro-second. The instrument is operated from a power supply 100-125 volts, 60 cycles. The accuracy is plus or minus 1% on the high range with reduced accuracy on the slow (1/10) range.

The stroboscope is manufactured by Electronic Brazing Co., Montclair, N. J., for which the Herman H. Sticht Co. acts as sole distributor and sales agent.

(Request Item No. K-13)

Variable Speed Sheave

T. B. Wood's Sons Co., Chambersburg, Pa., has introduced a new SVS multiple-groove variable-speed sheave for use with standard V-belts. The sheave is said to feature simple accurate speed adjustment and non-freezing construction. Its positive locking action is said to prevent even microscopic motion between the components; hence fretting corrosion cannot occur, and there is no need for lubrication.

Freezing is eliminated because of the absence of wear and corrosion.

Positive locking collars securely clamp split flange extensions to a sleeve, which is keyed to the shaft on which the sheave is mounted. Clamping screws on the collars are tightened to secure the sheave on the motor shaft and to lock all moving sheave parts. Design of the locking collars is such that the clamping screws cannot be overtightened, the company reports.

To make a speed adjustment, the drive is stopped and belt tension released. The two locking collars are loosened, and the adjusting crew is turned (from either side) with an open-end wrench or socket wrench. Collars are retightened, belt tension is adjusted, and the drive is again ready to operate.

The SVS is designed for use with 2-groove or 4-groove standard stock companion sheaves and for V-belts of A, B, C or D section. Variations of pitch diameter are: A sheaves 1.1", B sheaves 1.4", C sheaves 2.2" and D shaves 3.0". Range of capacity is from 5 to 150 h.p.

(Request Item No. K-14)

Floor Finish

Tuff-Dri is the name of a new heavy-duty floor finish recently announced by Multi-Clean Products Inc., Minneapolis, Minn. Specially formulated from phenolic resins and tung oil, Tuff-Dri was developed to meet the needs of punishing industrial wear. It is recommended for use on wood or concrete floors.

Tuff-Dri is said to penetrate and seal the sub-surface and to build up to a tough, resilient, high gloss surface finish. According to the manufacturer, it provides an attractive, long wearing, slip-resistant surface that is tough enough and flexible enough to withstand heavy traffic from trucks customarily used in industrial plants.

One gallon will normally cover 350 to 375 sq. ft. for the first coat and 550 to 700 sq. ft. for the second. The floor is generally ready for traffic or an additional coat can be applied after 1½ or two hours drying time. (Request Item No. K-15)

Floor Trucks

Structo-Lite trucks, a new series of lightweight, all-aluminum floor trucks are now being manufactured by Nutting Truck & Caster Co., Faribault, Minn. Structo-Lite trucks are designed for handling materials in textile mills.

About 1/3 lighter than steel trucks of the same size and equipped with Nutting "free wheeling" tires, these trucks are said to be easier to operate, thereby releasing man-power for more frequent and larger loads.

Made of heat treated structural aluminum alloy, the same type used for heavy duty structures where high resistance to stress, strain and corrosion is required, the units are said to be non-sparking, non-toxic and unaffected by many chemicals and most acids and alkalies. They feature low modulus of elasticity for resisting impact without deforming permanently.

This line of trucks has safety tread deck enclosed by double angle frame. Welded

FOR THE TEXTILE INDUSTRY'S USE—

construction provides one-piece unit to assure proper frame alignment at all times and to eliminate possibility of "play" and rackiness between members. Braced beneath by two full lengthwise and three crosswise angle members. All four corners are smoothly rounded for protection to personnel, walls and furniture. The units are standard with one interchangeable push handle. They are available with two handles and with one or two racks. Running gears are bolted on for easy removal and replacement in event of inspection, maintenance or repair. New three-bearing "friction free" casters for easiest turning are featured. The trucks are available in six standard deck sizes from 24 x 60" up through 36 x 72" with wheels 8" and 10" (2,300 lbs. capacity) or 8" and 12" (2,600 lbs. capacity). (Request Item No. K-16)

Polimize Dyeing Process

Several cotton yarn dyers are now using a new Althouse Polimize dyeing process, according to Althouse Chemical Co., New York City.

Developed by Dr. C. Scott Althouse and his staff after more than two years of research, the Polimize dyeing process is said to produce fabrics which are soft to the touch and to reduce labor and material costs by eliminating the need for added softeners. Textile manufacturers are said to be reporting increased efficiency in the weaving of polimized yarns.

Because the finish is a thoroughly reacted one, and thus becomes a part of the fiber itself, the Polimized processed yarn becomes synonomous with fast colors which remain throughout the life of the fabric.

Finished yarn tested in the company's research applications laboratory met the high standards of premium dyes. Repeated washings at 160° F. with modern laundry detergents showed excellent results. Light fastness properties reached 40 hours and more. (Request Item No. K-17)

Radiant Heater

An industrial radiant heater engineered for quick warm-up and cool-off has been developed by Corning Glass Works, Corning, N. Y., for drying, baking, curing and pre-heating. The tubular unit reaches full heating capacity of 800 to 850° F. within three minutes. This is said to eliminate costly warm-up delays on processing lines. Since the heater also cools rapidly, it does away with need for complex equipment to divert the heat after shutdown of the line.

Designed for horizontal mounting above or below the process line, tthe high-watt density heater produces an average of 20 watts per square inch of work surface.

The unit may prove of interest to mills that slash beam-dyed warps. It could be used as a pre-dryer for damp dye beams prior to the sheet of yarn entering the size box.

The Vycor brand radiant heater emits high efficiency long wave infrared rays from wire coils enclosed in tubes of 96% silica glass. The heat is absorbed uniformly regardless of product color. The glass tubing is highly resistant to heat, heat shock and corrosion, according to the company.

A triple reflector system directs 85 to 90% of the available radiation onto the work. A strip of non-tarnishing platinum, fire-bonded to one side of the Vycor tube, literally bounces the heat toward the product. The housing, consisting of two layers of aluminized steel with Fiberglas insulation between, provides additional reflection.

By providing more useful heat per kilowatt, the unit cuts power costs. Since little heat is dissipated into the air, working conditions are more comfortable.

Corning said the unit has been engineered for low-cost installation. Completely framed in aluminized steel, the heater comes equipped with junction box, leads, and mounting hangars. Because the units can be interlocked in parallel series and require no mid-supports, "cold spot" areas are said to be eliminated.

The heater causes less than 10% power surge when turned on. Thus, the switches require rating no higher than that of the heater.

The heater is virtually maintenance-free, according to the manufacturer. Both housing and heating element are corrosion resistant. The rigid frame won't sag in long spans. The reflector can be removed for cleaning. (Request Item No. K-18)

Remington Rand Data Processing

The Remington Rand Corp., New York City, introduced its new Univac Solid State electronic computor recently at the company's demonstration center in Charlotte, N. C. The new computor is named solid state because "solid" transistors, ferractor amplifiers and magnetic cores replace vacuum tubes.

The unit is said to be capable of taking such applications as production control, billing accounts receivable, sales analysis and inventory control, and joining and coordinating them into a single unified processing procedure.

The complete computor consists of four units. They are: the central processor, a card reader, a read-punch unit and a high speed printer. The central processor is the heart of the system. It has a "memory" storage capacity of 50,000 characters of information. This allows the user to perform complete problems in one run. It is no longer necessary to work out several parts of a problem, using the results of the first part as input to the second. This unit is said to be extremely fast. In the two-tenths of a second it takes to blink an eye it is said to be capable of making 4,000 comparisons.

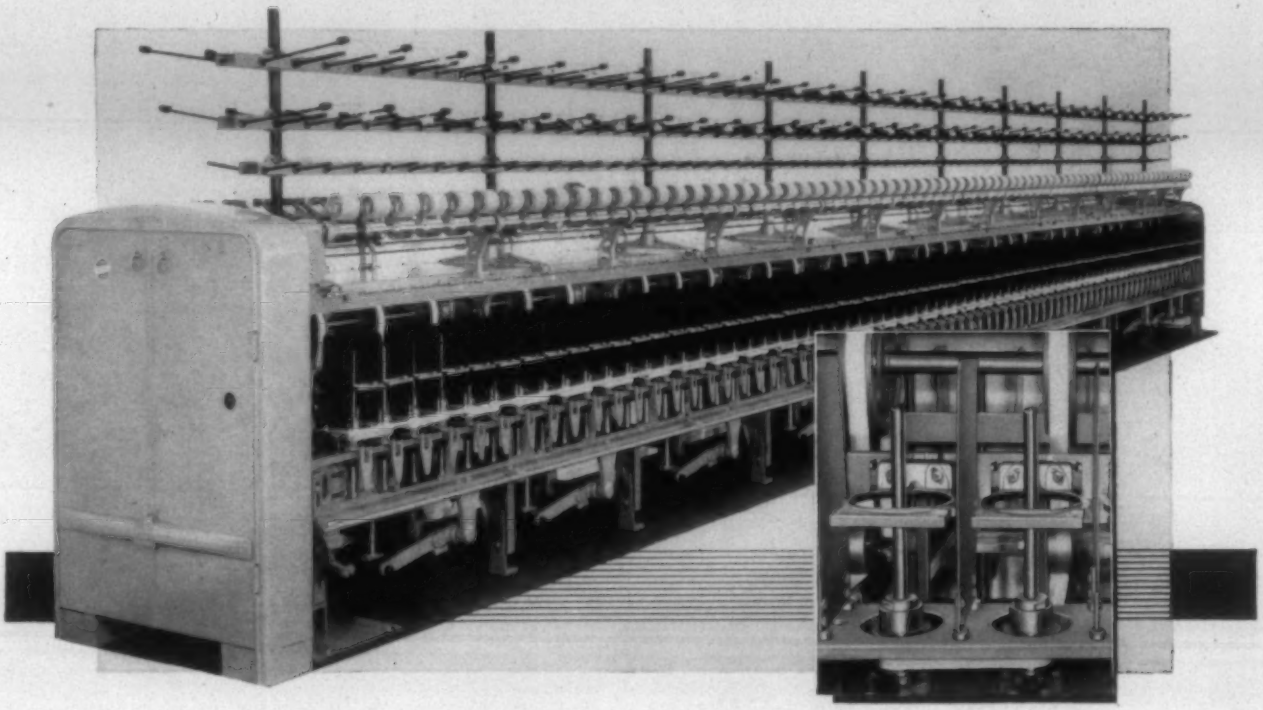
The card reader operates at 450 cards per minute. It will read a master file at the rate of 27,000 cards per hour. It is equipped with three stackers giving it the ability to sort cards after they have been read and verified.

The read-punch unit, as its name implies, is a dual purpose unit which has the ability to read or punch the cards. It can read a card, punch additional information in the same card and read the combined

Introducing

the PACEMAKER* P-3

A NEW Twister for highest possible production on low twist synthetic yarns



The new Whitin "PACEMAKER" Model P3 Ring Twister has many unique features which provide for maximum twisting efficiency and lowest possible cost. It is capable of operating at exceedingly high speeds which makes it especially attractive for mills processing low twist synthetic yarns. This is definitely *the* twister for forward looking, profit-minded mills!

Examine these outstanding features — many of them exclusive with Whitin:

- ★ **Head end — entire gear train mounted on antifriction bearings — laminated bakelite gears combined with metal gears for quiet operation**
- ★ **Feed rolls — 3" or 4" dia. boss type-hardened steel, heat treated, with chromium plated finish, mounted in grease packed ball bearings**
- ★ **Top rolls — aluminum cot with cork or Accotex covering**
- ★ **Spindle drive — 4-spindle group drive — steel pulleys on ball bearing mounted through shafts — Whitin-SKF b. b. tape tension pulleys**
- ★ **Stationary bottom plate over spindles — insures yarn cleanliness and supports full length separators**
- ★ **Ring rail construction — magnesium rail supporting ring holders having Whitin patented Micrometer adjustment**
- ★ **Rings — up to 5", choice of several auto-lubricated types**
- ★ **Spindles — latest Whitin SUPASONIC, HZ 55 or 66, depending upon bobbin weight — either internal or external brake — an outstanding new development in spindle design**
- ★ **Winds — square bottom differential taper top, square bottom taper with straight builder, and P-1 differential double taper wind on straight pirn**

*TRADEMARK

These are only a few of the many features. For complete information, ask your Whitin representative, or write to —

WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

data again as a re-check in one card pass. The speed of the unit is 150 cards per minute. It can prepare summary cards at the rate of 9,000 per hour.

The high speed printer operates at a speed of 600 lines per minute for extended periods. It can be used for printing invoices, pay checks, etc. The printer will print pay checks at the rate of 150 per minute.

The computor will be applicable for inventory control, payroll calculations and other accounting tasks. Applied to a typical payroll-labor distribution run, the new Remington Rand computor could process 72,150 cards for 6,000 hourly and incentive workers—including computations, summarizations, printing of paychecks and earnings statements, punching of new master, earnings and other cards—in less time than is normally required for just the printing of the paychecks with more conventional equipment.

The particular advantages of the solid-state construction are: reduced size; reduced power consumption (under 15 kva); reduced maintenance problems since no air-cooling system is required; and higher speeds. It is available on either a purchase or rental basis. Rental is $6,950 a month. Purchase price is $347,500.

(Request Item No. K-19)

Drawing Frame

Saco-Lowell's latest model Versa-Matic drawing frame is now available with Pneumafil air suction cleaning. This new Pneumafil system is said to be of an improved design which retains virtually the same over-all height of the Versa-Matic, leaving the top rolls readily accessible when changing roll settings. Each clearer unit may be quickly removed from within the clearer cover.

Specially designed baffles divert undesirable air blast from underneath the frame. Extensive mill and laboratory tests have proved that there is no stealing of spinnable fibers due to excess vacuum in the drafting zone.

Commenting on the Pneumafil design, J. W. Hubbard, vice-president, sales, said, "The simplicity and efficiency of this Pneumafil cleaning unit as applied to the Versa-Matic is a major step forward in the use of air suction cleaning on the draw frame."

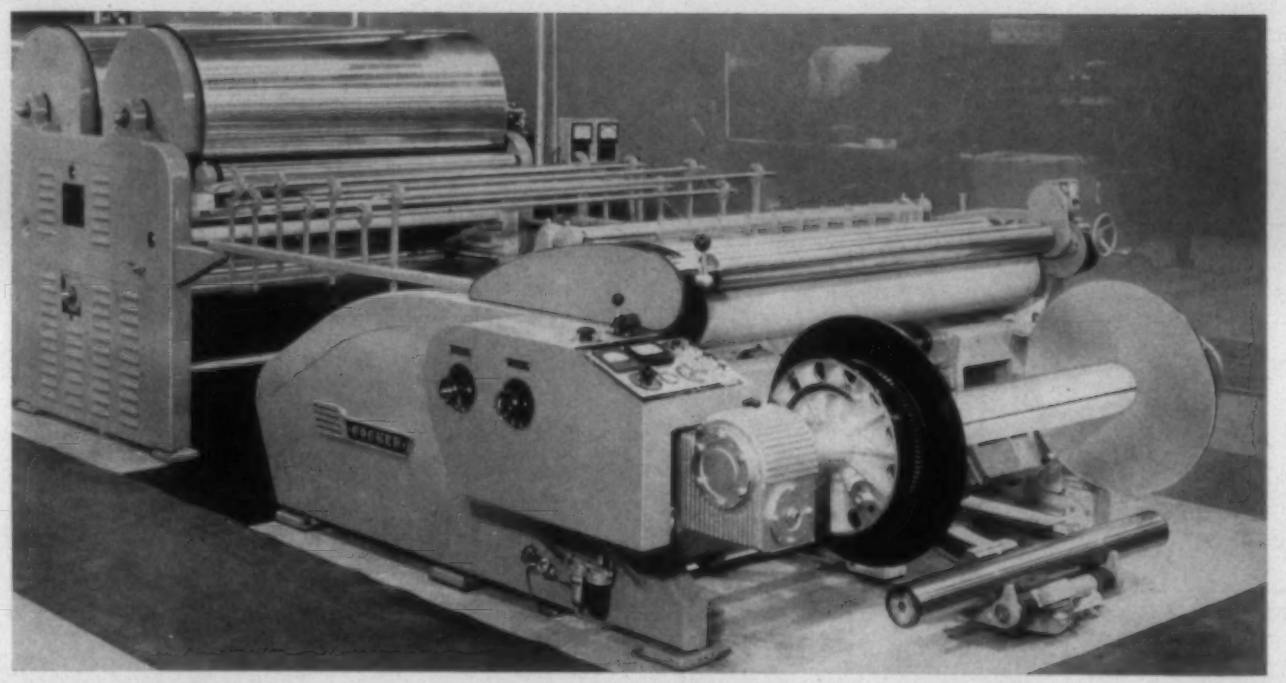
(Request Item No. K-20)

Cascade Washer

The James Hunter Machine Co., North Adams, Mass., reports that the dramatic economies which its Cascade washer makes possible for woolen and worsted finishers have resulted in wide general interest in the cascade washing system. In one recent month, three large Southern finishing plants installed 8-bowl washers. A fourth has ordered an 11-bowl washer; and one of the first installations has already ordered a conversion of its old-style Hunter continuous washer to a second Cascade washer.

This new Hunter unit is said to offer

MODERN COCKER



SLASHERS

WHY COCKER SLASHERS ARE WORTH MORE

The New Cocker G H Slasher • Production up to 1600 lbs./hr.

WORTH MORE IN PRODUCTION AND ECONOMY Consistently, over the years, Cocker Slashers have offered valuable extras . . . not incorporated in other equipment until years later . . . which produce more and better warps for less money.

WORTH MORE IN YEARS OF SERVICE Due to their advanced features, Cocker Slashers will serve you efficiently for years after other equipment has become obsolete.

WORTH MORE IN DEPENDABILITY Rugged construction and Cocker's unmatched reputation for prompt service assure uninterrupted operation. With hundreds of looms depending on one slasher you can't afford less than Cocker dependability and service.

No slasher, *regardless of price*, is a bargain unless it has all of the most modern features and only the Cocker Slasher is now . . . as it has always been at any time . . . the only completely modern slasher on the market.

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WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

FOR THE TEXTILE INDUSTRY'S USE—

savings in water, steam and labor costs—sufficient, generally, to pay for the complete installation within two years.

For example, it is said to use only a fraction of the 50 gals. of water required to wash a pound of cloth with the old-style batch dolly washer still in use by many finishers. On synthetic blanket materials, the Hunter Cascade has kept water consumption as low as 1½ gal. per lb.; 5 to 10 gal. per lb. of goods is the absolute maximum water usage ever to be expected.

Combined with this reduced water consumption, of course, there is an obvious considerable saving in steam required to maintain temperatures at 110°F.

The Hunter Cascade washer usually is set in range with Scutcher, squeeze rolls and plaiter, and the entire range can be operated by only two men; thereby presenting a major labor-saving opportunity.

The Cascade system also has several points in its favor over the old-style continuous cloth washing system. First of all, the original investment is smaller. Also, the proximity of the bowls to each other permits a much more efficient counterflow system than the pump system that is necessary with older-style equipment.

Finishers presently using the Hunter Continuous washer can effect considerable savings in converting to the Hunter Cascade washer by using the rubber squeeze rolls, squeeze roll levers and stainless steel whip rolls from the old installation on the new unit. (Request Item No. K-21)

Synthetic Resin Latex

A new synthetic resin latex designed for use in upholstery backings, textile sizings, adhesives, textile printing inks, and carpet backing has been developed by the chemical division of The Goodyear Tire & Rubber Co., Akron, Ohio. Called Pliolite Latex 140, Goodyear's new product was introduced at the 1959 annual meeting of the American Association of Textile Chemists & Colorists.

As a non-curing backsizing, the new latex is said to exhibit outstanding heat and light aging properties. At the same time, it is a highly flexible latex that can be compounded to meet a wide variety of conditions. Containing a non-staining anti-oxidant system, Pliolite Latex 140 is a water dispersion of a styrene-butadiene copolymer. At room temperature, it forms tough, flexible films with low odor, excellent clarity and adhesion, high pigment binding and mechanical stability.

High styrene reinforcing latices can be used with the new latex to improve physical properties. Excellent stability of the latex makes it possible to use high pigment loadings and high total solids, thus reducing batch volume and heat requirements for drying, the company reports.

A sister product, Pliolite Latex 141, also was introduced by Goodyear at the same time. This latex, without an anti-oxidant system, will be made available to users who prefer to add their own particular anti-oxidant. In all other properties and application possibilities, the two Goodyear latices are said to be identical.

Also shown by Goodyear at its A.A.T.C.C. exhibit were other latex applications for nonwoven fabric binders, fabric finishes, carpet backings, printing inks and warp sizing. Vitel, Goodyear's polyester resin for textile fibers, also was a featured part of the exhibit.

(Request Item No. K-22)

V-Belt Drives

With compact packages made possible through high-strength belts and sheaves, the new Ultra-V drives by T. B. Wood's Sons Co., Chambersburg, Pa., are said to have three times the horsepower of conventional V-belt drives occupying the same space. Likewise, the company reports, a shift to Ultra-V will save both weight and space for a drive of given horsepower.

As a specific example, one particular 100-h.p. standard V-belt drive requires a driver sheave of 9.4" pitch diameter, a driven sheave of 20.0" pitch diameter and nine "C" belts. Total weight is 265 lbs.

For the same horsepower and service factor, the corresponding Ultra-V drive would require a driver sheave of 7.5" OD, a driven sheave of 16" OD and eight 5V belts. Total weight is 173 lbs.; weight saving 34.72%.

With Ultra-V, the number of belt cross-sections is reduced from 5 to 3. The entire range of drive requirements from 1 to 1,500

h.p. is covered by these cross-sections: 3V—3/8" wide by 5/16" deep; 5V—3/8" wide by 17/32" deep; 8V—1" wide by 7/8" deep.

The deep, narrow Ultra-V belts have greater side-wall area for the transmission of power. Their arched tops confine the tensile members, freeing the side walls for compression and gripping power. The arched top also helps to hold the tension members in alignment and to equalize the load carried by each member.

These smaller drives are said to reduce shaft overhang, increase bearing life, cut maintenance costs and simplify inventory and storage. On some large drives the Ultra-V will eliminate the need to employ outboard bearings.

Modern synthetic fibers and rubbers are utilized to the fullest extent. Exceptionally stable, the Ultra-V belts are said to be subject to little if any shelf shrinkage. All are static conductors and are resistant to heat, oil and outdoor exposure. They are available in only one grade, premium quality, which further simplifies inventory problems.

Matching Ultra-V sheaves are designed with narrower grooves and closer groove spacing, thus making possible smaller diameters and lesser weights. Sheaves are cast from high-strength alloys, including ductile iron when required. Grooves are precision machined and sheaves are accurately balanced to meet service requirements.

All Wood's Ultra-V sheaves are equipped with interchangeable Sure-Grip bushings, QD Type. This tapered bushing holds with the grip of a shrink fit yet is said to be easy to install and remove. The same Ultra-V sheaves may be installed on shafts of different sizes, or sheaves of different sizes may be installed on the same shaft. Sure-Grip bushings can be either standard or reverse mounted, providing additional flexibility. (Request Item No. K-23)

For the Mill Bookshelf

Overhead Handling Systems

The American MonoRail Co., Euclid, Ohio, has published a new 56-page catalog featuring its engineered overhead handling systems of track, cranes, trolley, switches, and other electrification, as well as monotractors and auxiliary equipment, covering both prime lines: Railmaster (heavy duty) and Standard (light duty) monorail systems. The book lists hundreds of applications in many industries, and processes within industry. (Request Item No. K-24)

Dyeing Assistant

Descriptive literature on the use of a new dyeing assistant, Fancosol P, is being offered by the W. F. Fancourt Co., Philadelphia, Pa., producer of textile chemicals. Fancosol P is said to serve as an effective retarding agent in the absorption of dye by Orlon or any acrylic fibers with basic dyestuff. It can also be used combined with caustic soda and hydrosulphite to strip vat dyestuffs from fibers. The literature gives amounts and specifications for its usage.

(Request Item No. K-25)

Reclaimer Data Sheet

Inquiry data sheets designed for the easy exchange of preliminary engineering information in the construction of heat reclaimers for textile installations have been prepared by the Patterson-Kelley Co., East Stroudsburg, Pa.

In easy-to-use chart form, the 1-page inquiry sheet is said to contain all necessary information areas requiring specific data for heat reclaimer design and estimated cost of installation.

J. J. Coleman, chief engineer of the firm's textile division, said the inquiry sheet "eliminates about 90% of the preliminary correspondence and contact work required to furnish design information and costs involved in normal heat reclaimer installations."

Information covered on the inquiry data sheet includes vat operations, time schedule, kier operations, water supply and temperature, available heat sources, and class of work being processed.

(Request Item No. K-26)

Variable Speed Drives

A new 96-page catalog, designated M-592, has been published by Reliance Electric & Engineering Co., Cleveland, Ohio, explaining in brief copy and many photos and drawings the wide assortment of styles, modifications and accessories available in the firm's complete line of mechanical variable-speed Motodrives. The Vari-Speed Motodrive, available in capacities from 1/4 through 40 h.p., provides infinitely adjustable speeds within ranges of from 2:1 to 10:1 from a constant r.p.m. a.c. motor source. The catalog includes construction features, specifications, speed and rating tables, and pricing information. Send request on your company letterhead.

(Request Item No. K-27)

Piping And Valve Chart

A handy wall chart, "Recommended Piping Practice," has been published by the Lunkenheimer Co. of Cincinnati, Ohio. The 3-color, 17" x 22" chart is useful for installation and maintenance personnel and individuals requisitioning valves of all types.

The fully-illustrated chart is divided into five sections, entitled "Basic Valve Types," "Connections Normally Used," "Installation and Maintenance Tools," "Installations," and "Operation and Maintenance," for easy reference by plant personnel.

Illustrations of items from Lunkenheimer's complete line of valves, engineering specialties and lubricating devices, appear on the back of the chart.

(Request Item No. K-28)

Electronic Control

A new bulletin on electronic control for process industries, called "A Functional Guide to Autronic Control Equipment," has been released by the Swartwout Co. of Cleveland, Ohio. The main feature of the bulletin is a large illustrated chart on which all the major system components are arranged functionally to enable the reader to quickly see what control instrumentation is available for a given process variable. The chart also defines the over-all scope of application of the Autronic system.

In addition to the graphic chart, the bulletin contains concise descriptions of all the components employed in Autronic control. For readers desiring more detailed technical data, a specification bulletin number is given for each component.

A brief introductory section of the new bulletin explains the basic principles of operation of the Autronic system of electronic control. (Request Item No. K-29)

Electric Indicators And Controllers

General Electric Co., Schenectady, N. Y., has published 10-page Bulletin GEZ-2898 describing its d.c. millivoltmeter and bridge-type controllers, temperature scanner systems, and saturable reactor control systems for indication and control of temperature and other variables. The publication includes discussion of typical measurement applications, principles of operation, control forms, and specifications and scale ranges available. (Request Item No. K-30)

Speed Recorders

General Electric Co., Schenectady, N. Y., has issued two bulletins describing two models of its speed recorders. Bulletin GET 2741-1A describes its Type HF differential speed strip-chart recorder for indicating and recording differential speed on process equipment. The 2-page bulletin describes the principle of operation, general specifications and accessories available (tachometer generators, remote indicators, alarm contacts and control forms). It also includes a description and diagram of a typical process application, and a functional schematic of recorder circuitry.

Bulletin GET-2741-4A describes its type HF speed ratio strip-chart recorders for indicating and recording the ratio between two tachometer-generator voltages as a measure of process equipment speed characteristics. Two types are described, one indicating percent ratio (B/A x 100%), and the other indicating percent differential (B-A/A x 100%). The 2-page bulletin discusses general specifications, principle of operation and accessories available (tachometer generators, remote indicators, alarm contacts and control forms).

(Request Item No. K-31)

Serving The Textile Industry

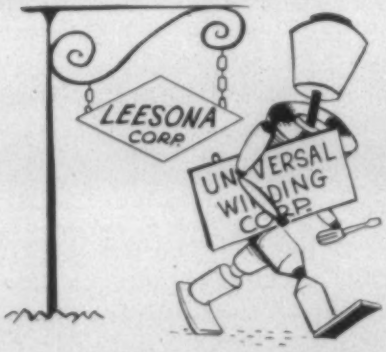
Chemstrand Research Opens Temporary Offices

Chemstrand Research Center Inc. has opened temporary offices in Durham, N. C., with William R. Crabtree serving as office manager pending completion of the new Center building, according to Dr. David W. Chaney, executive director research. The offices will be located in the Crum & Forster Group Building at Broad and Perry Sts. adjacent to the Duke University east campus.

Construction recently began on the Chemstrand Center in the Research Triangle Park near Durham, and plans are to relocate some 175 families from Decatur, Ala., by late Summer of 1960. Crabtree will coordinate relocation activities in the area until the move is completed, Chaney said. The assignment is in addition to Crabtree's duties as staff administrator for the center. He joined the company in 1955. Prior to that he was administrative assistant for research and development for American Enka Corp. at Asheville, N. C.

Universal Winding Co. Now Leesona Corp.

Stockholder approval has been granted to the proposal to change the name of Universal Winding Co. to Leesona Corp., without changing the identity of the corporation or affecting it in any other way.



All representations, applications, orders, certificates, contracts, deliveries, payments and the like shall continue to apply to this corporation under the new corporate name.

Saco-Lowell To Sell Picanol Looms In U. S.

Saco-Lowell Shops, Boston, Mass., recently signed an agreement to sell Picanol looms in the U. S. and Canada. The license agreement was signed by Thomas J. Ault, president of Saco-Lowell Shops, and Emmanuel Steverlynck, president of Metiers Automatiques Picanol S A of Ypres, Belgium.

The Belgian firm makes automatic looms for plain, dobby and jacquard weaves from 44 to 118" wide. They are said to be competitive in quality and price with those made in this country and by other European manufacturers. Steverlynck said that the agreement with Saco-Lowell was considered by his company as the best channel for U. S. distribution and sales of the high-speed automatic looms.

The Picanol looms are produced under the trade name "President." Nine looms are produced by the firm, offering a range said to be able to meet all the requirements of weaving.

American Cyanamid Co. To Move Headquarters

American Cyanamid Co., New York City, is moving its headquarters from New York to Passaic County, N. J. The firm has selected a 18-acre tract in rural Wayne township, Passaic County, as the site of its new administrative offices. At present the offices are at 30 Rockefeller Plaza, New York. Construction is expected to begin in the Fall. The new buildings have been planned in units which will be completed and occupied at intervals. Cost of the construction is expected to be between $8 and $10 million.

A. B. Carter Gets Cole Manufacturing Rights

A. B. Carter Inc., Gastonia, N. C., has announced the acquisition of exclusive manufacturing and distribution rights on products developed by the Cole Engineering Corp., Columbus, Ga. Cole's line consists of anti-friction, grease sealed, needle bearing top rolls for slubbers and spinning, and a dual apron-dual nose bar drafting system as a conversion item to any type of present spinning. Carter plans to present the Cole line to the industry as companion items to its own manufactured parts, knotters, travelers and other items.

The merits and superior performance of the Cole drafting system has been proven by mill personnel on several large installations. The amortization of the original cost of the system has been made from 12 to 36 months in the savings effected by superior quality and the ability to maintain quality with a shorter staple cotton and increased front roll speeds.

Cole Engineering Corp. through five years of research and development has accomplished many firsts in the process of fiber attenuating apparatus. Top anti-friction rolls using needle bearing with exclusive rights to a tension seal, which eliminates chokes and periodical servicing have been proven after five years of service in mills throughout the U. S. and Canada. Elimination of front line nebs in 1952 was followed by various types of saddles to accomplish the same objective. Elimination of cradles with the double boss Casablancas with guides out of contact with any rotating part came in 1953. This was followed by the use of adjustable spring weighting replacing gravity weights. The double boss, dual nose bar system of drafting which embodies a complete new principle of alignment, apron tension and pressure adjustment was introduced in 1957.

A. B. Carter will manufacture all parts for the system excluding top anti-friction rolls which will be manufactured by Cole. The system will be assembled in Columbus or Gastonia, whichever is the nearest shipping point. Latest developments to the dual nose bar drafting system will be introduced in the early part of 1960.

American Enka Corp. Reports Increased Earnings

Reflecting capacity output of Tyrex viscose tire yarn, as well as rayon and nylon textile yarns, American Enka Corp., Enka, N. C., reported a sharp rise in earnings and record sales for the first 36 weeks of this year.

Consolidated net sales amounted to $76,655,000 for the period ended September 13, compared with $42,490,000 in the 36 weeks ended September 7, 1958, an increase of 80%. Consolidated net income increased to $5,287,000, or $3.99 per share, compared with $154,000, or 11 cents a share, for the same period of 1958.

For the third quarter of 1959, sales were $26,657,000, compared with $14,903,000 a year ago. Net income amounted to $1,803,000 or $1.36 a share, compared with $149,000, or 11 cents a share, for the third quarter of 1958.

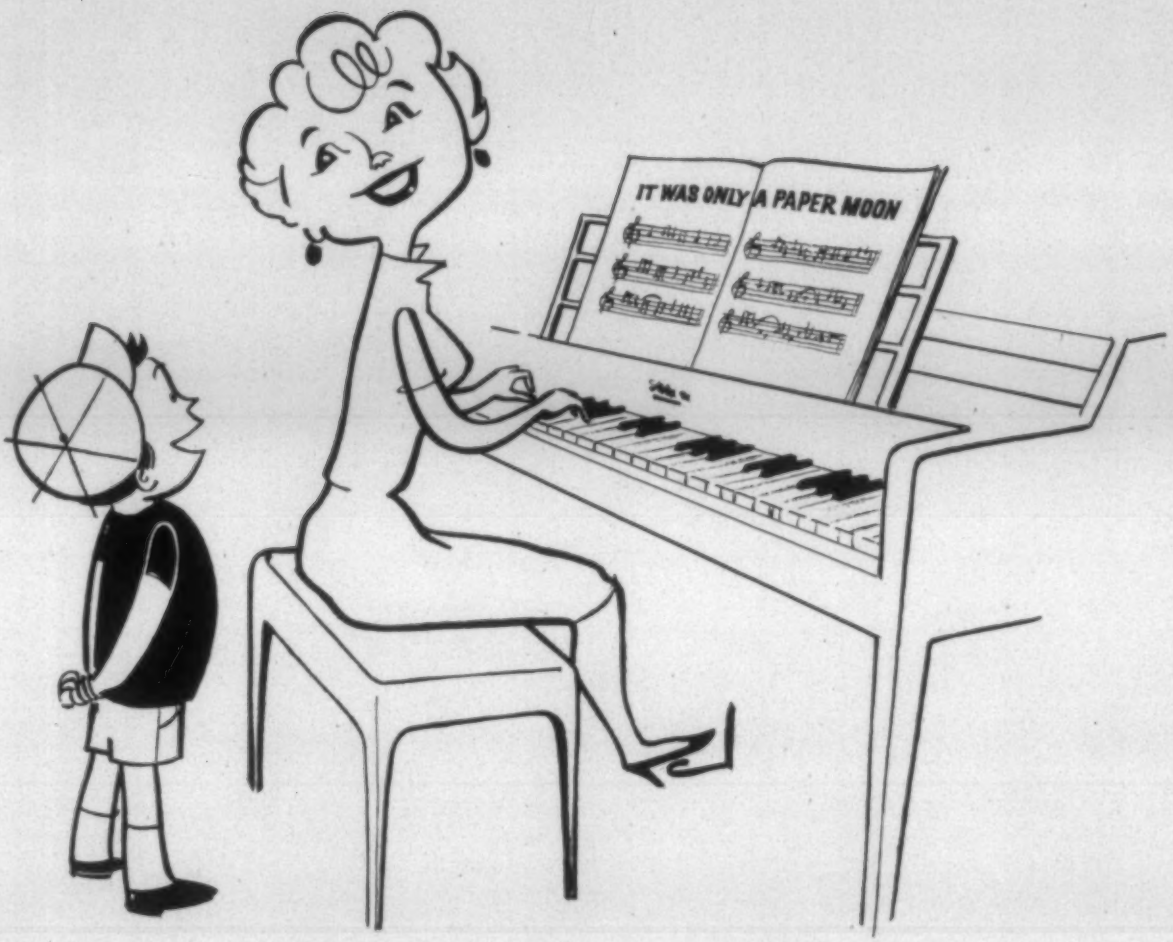
"Production of Tyrex viscose yarn for tires and rayon textile yarn is continuing at capacity," according to William Gage Brady Jr., chairman of the board and president of the company. "Tires made with Tyrex will be standard equipment on virtually all 1960 model passenger automobiles. An improved type of Tyrex yarn is now in semi-commercial production. In order to remain competitive, the company reduced the price of its Tyrex viscose yarn in September."

The expansion of the company's nylon plant is said to be moving ahead on schedule, and production at the enlarged plant is expected to start in early 1960. Present nylon textile yarn facilities are operating at near capacity.

Sonoco Products Co. Establishes Scholarships

C. H. Campbell, vice-president in charge of sales of Sonoco Products Co., Hartsville, S. C., has announced the establishment of two $500 annual scholarships for the School of Textiles at Clemson College, Clemson, S. C. Selection for the awards will be made by the Textile Faculty Committee of Clemson from the best qualified undergraduates majoring in textiles.

In announcing the scholarships Campbell said, "It has been recognized that there are



"Dillard paper, Mommy?"

Dillard PAPER COMPANY

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1926 "IF IT'S PAPER" 1959

not enough students taking textile training in the various textile schools in the Southeast to supply the trained personnel required by this major industry. Many other firms have established scholarships in an effort to encourage more young men to take textile training. Since Sonoco is closely allied to the textile industry, we are glad to join these firms in this very worthwhile program."

The scholarships for 1959-60 school year have been awarded to William L. Patrick of Charleston, S. C., a sophomore in textile management, and to Roy E. Phillips, sophmore in textile chemistry from Rock Hill, S. C.

James Hunter Inc. Merges With Thomas Leyland

In a move planned to broaden and extend the quality and completeness of the service it offers to the textile industry, the Thomas Leyland Machine Co., Readville, Mass., has merged with James Hunter Inc. of Mauldin, S. C. The consolidation will place the modern manufacturing facilities of James Hunter in its new Mauldin plant at the disposal of Leyland customers, and will permit full utilization of the sales and service organization developed by the Southern subsidiary of the James Hunter Machine Co.

The Leyland Co., which has served the textile industry for over 70 years, was purchased by the James Hunter Machine Co. in 1948. James W. Scholpp, who has been associated with the Leyland plant in Readville since 1936, will serve as office manager of the newly-merged companies.

The entire line of Leyland expanders and Flexspools will be manufactured by James Hunter Inc. and made available to users in both the North and the South.

Saco-Lowell Reports Profitable Third Quarter

The first profitable quarter in over two years was reported recently by Thomas J. Ault, president of Saco-Lowell Shops, Boston, Mass., in the statement for the quarter ended August 31.

In his statement Ault said: "As forecast in our mid-year letter to stockholders, operations for the third quarter of the current fiscal year were greatly improved and resulted, after reflecting non-recurring credit items applicable to the period in the net amount of $538,000, in a net profit of $48,770 compared with a net loss of $971,562 in the second and $1,147,774 in the first quarter of the year, making the nine months loss $2,070,566. Operations should continue to show improvement during the fourth quarter, barring possible complications from a further continuation of the steel strike."

The last profitable quarter for Saco-Lowell occurred in the quarter ended June 2, 1957, when net income for the quarter was $16,462. Ault became president of Saco-Lowell July 1, 1958. "Sales of all products continued to increase and were at a higher level than in the second quarter," Ault said. "Employment is now over 3,400 compared to 2,200 last December."

"Our backlog continues to be satisfactory. Deliveries, which have been a major problem due to our relocation program, are steadily improving but we are still about six weeks behind our schedule."

The company also recently announced its appointment as exclusive agent in the U. S. and all foreign countries to sell and service Hartford spindles made by Hartford Machine Screw Co., division of Standard Screw Co., at its Windsor, Conn., plant.

The Saco-Lowell textile sales department, which will take over the servicing of existing Hartford spindle installations, will feature a complete line of spinning filling and warp spindles, and twister spindles to be known as Saco-Lowell Hartford Spindles.

National Starch & Chemical Plans Additional Facilities

New construction that will soon increase National Starch & Chemical Corp.'s research and technical development facilities by more than 50% was begun recently with the breaking of ground for two additional buildings at the company's Alexander Research Laboratories in Plainfield, N. J. Construction is scheduled for completion some time early next year, he reported.

One of the new buildings will house the central manufacturing department and will provide office space as well for several technical development departments. The new laboratory unit will be occupied by the structural products, starch research and control methods lab groups.

National's major research and development operations have been centralized at Plainfield since the first wing of its modern lab was constructed there in 1952. Other research and development facilities are located in Chicago and San Francisco. Additional laboratories are maintained in Canada and the company has headquarters in New York City.

Atlantic States Motor Lines Opens Durham, N. C., Terminal

Atlantic States Motor Lines Inc. has opened a new terminal in Durham, N. C., at 3015 Hoover Road, according to announcement by M. E. Sheahan, president of the Atlantic States and Johnson Motor Lines systems. Initial operations of the terminal began on Monday, September 14.

The terminal will be fully staffed and equipped to more adequately serve the Piedmont Eastern area of North Carolina. Through the facilities, customers in the area will receive a daily pickup and delivery service on shipments of unrestricted sizes and commodities.

A North Carolina firm, Atlantic States serves generally the states of Georgia, South Carolina, North Carolina, Virginia, Maryland, Delaware, Pennsylvania, New York, New Jersey and the District of Columbia.

International Salt Co. Reorganizes Southern Sales

Major changes in its Southern sales organization have been announced by the International Salt Co., Scranton, Pa., a leading national salt producer.

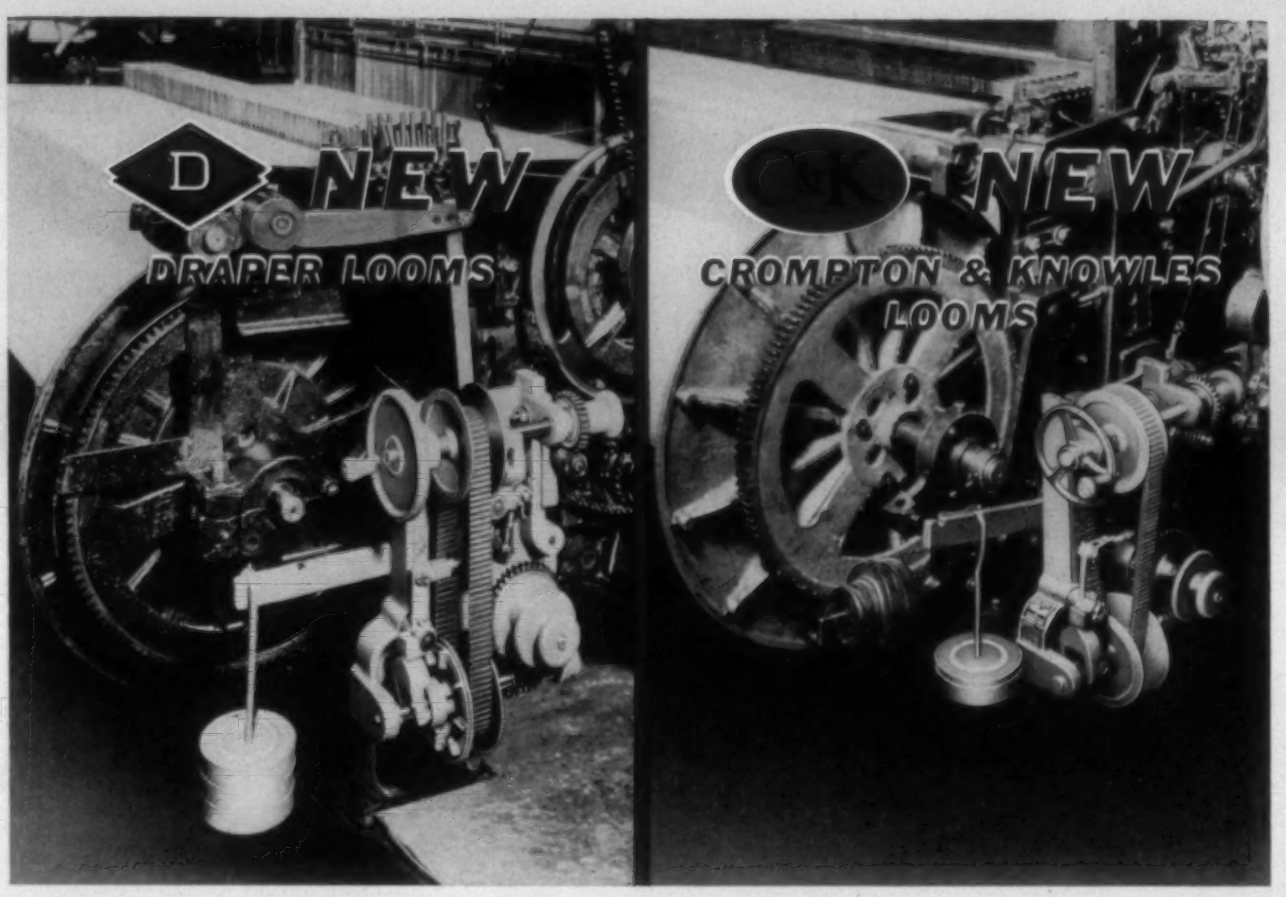
Highlights of these changes include the opening of a new office in Charlotte, N. C., the enlarging of an existing office in New Orleans, closing of offices in Atlanta and Richmond, and discontinuing of the Southern sales division which had its office in New Orleans. Early in 1959, the company closed its Memphis office.

"We are making these important changes in our Southern sales organization," says John L. Ryon, vice-president in charge of sales, "after carefully analyzing the Southern market. With our new Charlotte and enlarged New Orleans offices, we will be able to serve our Southern industrial customers more efficiently than we have been able to from our more numerous but small former offices."

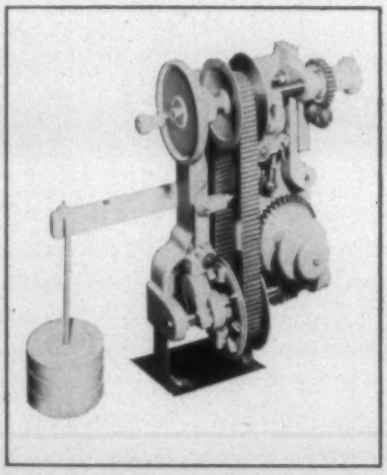
Company spokesmen state that Charlotte was selected for its new Southern office because it is centrally located and in a growing area. It is also close to a large number of International Salt customers. This office will serve the states of Florida, Georgia, North Carolina, South Carolina and Virginia. The enlarged New Orleans office will be responsible for sales in Alabama, Arkansas, Louisiana, Mississippi, Tennessee and Texas.

Intercontinental Chemical Erecting New Building In N. J.

Intercontinental Chemical Corp., New York City, has announced that it will build a modern building of over 40,000 square feet in Mountainside, N. J., at Sheffield Road, off Route 22. The building will be the new home for Carbic-Hoechst Corp.,



NOW HAVE THE HUNT LET-OFF



Not only is the Hunt Let-Off available for all models of existing looms, but now it is available on new looms from Draper Corporation and Crompton and Knowles Corporation. This positive and automatic Let-Off maintains constant and even tension from full to empty beam, beam after beam without attention or adjustment. Thousands are now in operation on looms weaving plain and fancy cottons, synthetics, woolens and worsteds. It has been proven in the mill that a Hunt Let-Off eliminates wavy cloth and greatly reduces set marks. Not only does the Hunt Let-Off make it possible to weave perfect cloth at lower labor costs, but it increases production by reducing loom downtime for "fixing."

We've changed our name

For more information write, wire or phone:

DRAPER CORPORATION, HOPEDALE, MASS.
CROMPTON & KNOWLES CORPORATION, WORCESTER, MASS.

OR

SOUTHERN MACHINERY COMPANY

(FORMERLY SOUTHERN LOOM DEVELOPMENT COMPANY)
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SERVING THE TEXTILE INDUSTRY——

Hostachem Corp. and Hostawax Co., technical representatives and distributors for the products of Farwerke Hoechst AG, West Germany, and Hoechst Chemical Corp., West Warwick, R. I.

Carbic-Hoechst Corp., which sells dyestuffs, pigments and textile chemicals, will move from 451 Washington St., New York, and will have a modern laboratory for customer's service and application research, and a complete warehouse, including refrigerated storage for fast color salts.

Polymer Industries To Share Research Center

Polymer Industries, a leading producer of industrial adhesives and chemical specialties for the textile industry, will conduct research in the field of high speed adhesion and polymerization in the new multi-million-dollar Philip Morris Research Center, Richmond, Va. Polymer Industries is a subsidiary of the Philip Morris Co. It will share the facilities of the new center with the parent firm.

Lenox Chemical Co. Formed In Rhode Island

The formation and incorporation of Lenox Chemical Co., Providence, R. I., has been announced by its president, Leonard Shaftan. The firm will manufacture chemicals for a wide number of uses in the textile industry and will offer complete sales and technical service facilities. Products will include wool lubricants, anti-static finishes and dyeing auxiliaries. Shaftan, graduate chemical engineer, was formerly associated with L. Sonneborn Sons. He stated that the new company would operate from plant and laboratory headquarters in Providence.

Morningstar-Paisley Inc. Buys Colorado Potato Firm

Morningstar-Paisley Inc., New York City, has purchased the San Luis Valley Starch Co. in Monte Vista, Colo., to handle potatoes from nearby growing areas. The purchase will help assure the firm of a constant supply of potato starch, used in the manufacture of its line of textile starches and gums. E. C. Lenz, vice-president, said the move was in line with the increasingly common practice of setting up processing facilities in widely separated areas to prevent crop shortage in one location from reducing the starch supply substantially.

The company says that potato starch offers a number of unique, desirable properties for yarn sizing and textile finishing operations. It increases slowly in viscosity so that the sizing solution completely encapsulates the yarn before gelling. In addition, the extreme clarity of potato starch gells, it is said, does not detract from color and floss in thread dressing operations. Potato starch is said to be much easier to remove in desizing operations than other types of starches. Because of its high viscosity it is said to go further, resulting in greater economy.

Pittsburgh Plate Glass Co. To Expand Glass Yarn Plant

Pittsburgh Plate Glass Co. has announced that construction on the new fiber glass yarn plant at Shelby, N. C., will continue until 24 glass furnaces are installed. Originally, the company had announced plans to equip the Carolina factory with 16 furnaces with a rated annual capacity of 25,000,000 pounds of textile yarn.

According to Robert A. McLaughlin, general manager of the fiber glass division, this expansion had been planned for the future. He said that the decision to expand immediately was due to the heavy demands for the high quality yarns now being produced at this unit.

The division's general manager credits broad technical improvements in both processes and machinery with producing quality yarns which have exceeded expectations.

Currently, the plant has 12 furnaces in production and the initial phase of the Carolina plant program will be completed within 60 days or about six months ahead of the original schedule. McLaughlin reported that when the expansion is completed, the Carolina plant will be the largest textile fiber glass plant employing the direct melt system exclusively.

He said that when the plant expansion program is completed in about 12 months, it would have a rated annual capacity in excess of 40,000,000 pounds of textile yarn. At capacity, the Carolina plant will employ about 1,200 persons.

Statement Required by the Act of August 24, 1912, as Amended by the Acts of March 2, 1933, and July 2, 1946 (Title 39, United States Code, Section 233), Showing the Ownership, Management and Circulation of Textile Bulletin, published Monthly at Charlotte, N. C., November, 1959.

State of North Carolina

County of Mecklenburg

Before me, a Notary Public is and for the state and county aforesaid, personally appeared Junius M. Smith, who, having been duly sworn according to law, deposes and says that he is the General Manager of Textile Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 2, 1933, and July 2, 1946, embodied in Section 233, Postal Laws and Regulations, to wit:

That the names and addresses of the publisher, editor and general manager are:

Publisher, Clark Publishing Co., Charlotte, N. C.; editor, Jack Kissiah, Charlotte, N. C.; managing editor, Jack Kissiah, Charlotte, N. C.; general manager, Junius M. Smith, Charlotte, N. C.

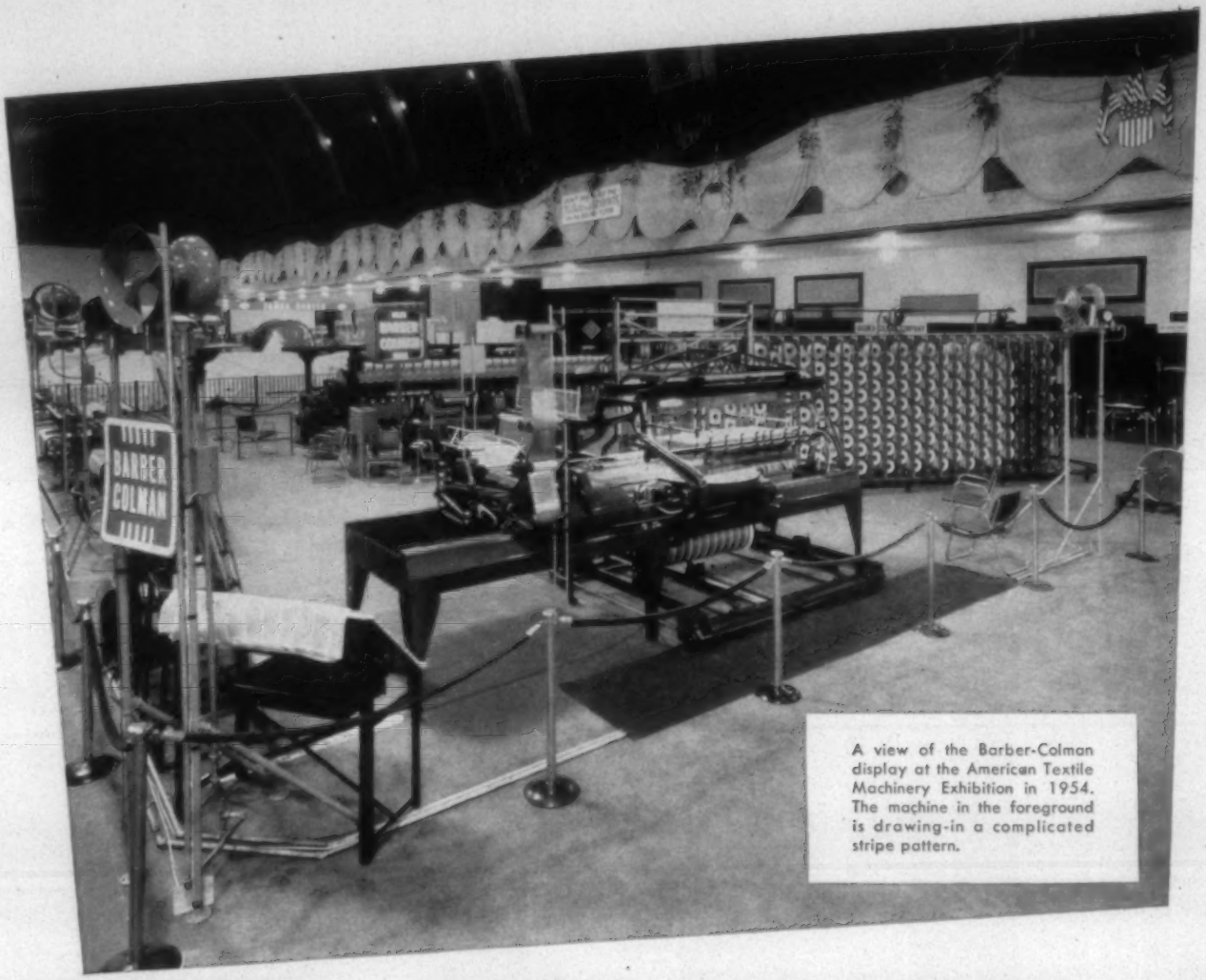
That the owner is: Clark Publishing Co., Charlotte, N. C.; John W. Clark, Trustee, Concord, N. C.

That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of the total amount of bonds, mortgages, or other securities are: None.

(Signed) JUNIUS M. SMITH,
General Manager.

Sworn to and subscribed before me this 2nd day of October, 1959.

J. F. ECKARD,
Notary Public.



A view of the Barber-Colman display at the American Textile Machinery Exhibition in 1954. The machine in the foreground is drawing-in a complicated stripe pattern.

BARBER COLMAN

ATLANTIC CITY, N. J.
MAY 23-27, 1960

It is not too early to plan...

Less than a year from now, the next great American Textile Machinery Exhibition will take place at Atlantic City, in the same huge Auditorium which has housed it on two previous occasions. *It is not too early now for you to start planning to be there.* Barber-Colman will, of course, be among the exhibitors — with operating examples of all the latest and most interesting models of Barber-Colman machines. You will find machines here that can improve the quality of your products, increase the efficiency of your manufacturing methods, and reduce your operating costs by significant amounts. You will have a chance to see these machines in actual operation demonstrating their capabilities on the yarns and goods for which they are designed. You will have a chance to talk with experienced men, who can discuss in detail the possible uses of Barber-Colman machines in your own mill. You will have a chance to ascertain the advantages and calculate the comparative costs of the new Barber-Colman ideas against your present methods. These valuable opportunities are planned for *your* benefit—so, start to plan *now* on being at Atlantic City next May.

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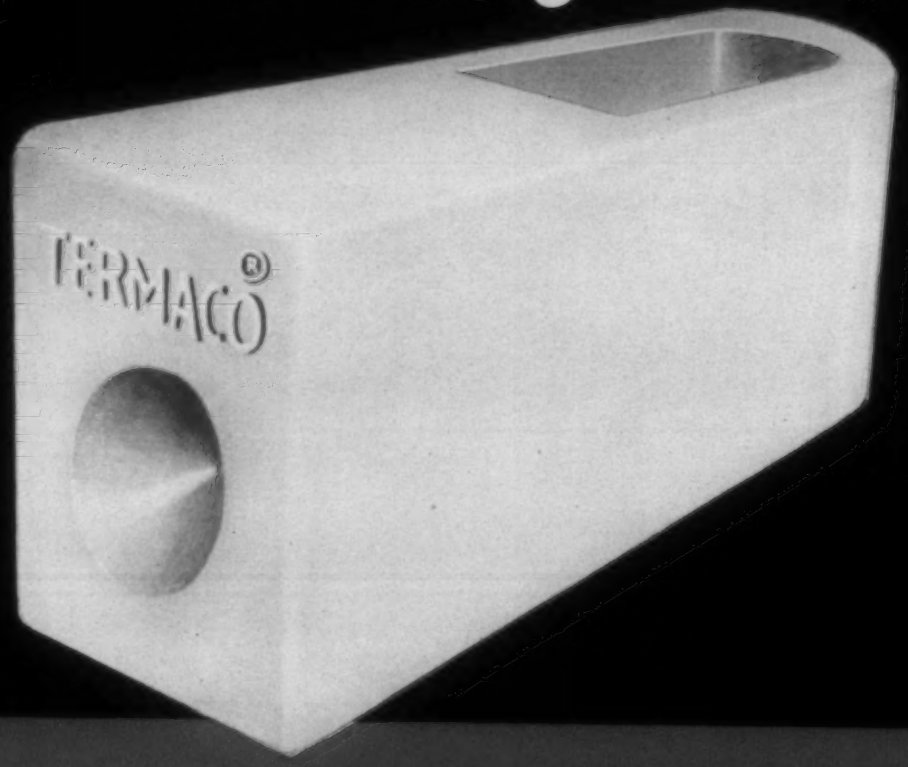

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textile bulletin

VOL. 85 NOVEMBER 1959 NO. 11

Controlled Profits

a management consultant describes how proper organization can add to your profits

By RUDOLPH M. ASHNER*

TO buy equipment usually requires heavy capital investment while good organization, comparatively speaking, belongs in the category of "the best things in life are free." In other words, to set up a good organization usually requires little investment in money but rather heavy investment in clear and analytical thinking, unencumbered by sentiment or a natural aversion against change.

You may question the necessity of a complete and well-thought out organizational plan for a small or medium-size enterprise, because the success of many of these enterprises is the result of the outstanding ability of one industrious man with extensive experience and contacts. Unfortunately, however, in today's highly competitive market, these qualifications may not be enough because business is changing so fast that unless the president of an organization has up-to-date, reliable facts continually at his fingertips and a yardstick to measure the impact of these facts on his operations *daily*, he will be groping in the dark and will have to rely on intuition which is not always reliable even if he is a genius. Consequently he will be chained all his life to the steering wheel of his enterprise, and nobody can sit in the driver's seat continually without getting tired, and possibly driving off the road.

How can a good, integrated organization avoid these dreary consequences? To think this through together, we will have to define and clearly agree on some basic principles and definitions.

As pointed out, a greater number of facts, plus the yardsticks to evaluate them, are two basic requirements for successful business activities. Furthermore we must have *fast* evaluation of these facts which, I might emphasize, must be reliable, objective and up-to-date.

Proper evaluation of data on production, cost, waste, sales, etc., can not usually be expected from the people who create them. The people in the mill, for instance, will quite naturally be inclined to show as high a production or as low a waste and cost as possible. In other words, it is just not practical to make your bookkeeper your auditor. Also, production men as well as salesmen are by nature disinclined to deal with figures and reports. They usually would rather do things than record them and are more inclined to deal with people or equipment than with figures. Thus we have the obvious necessity of dividing organizationally the doers from the planners and controllers, which in the language of industrial engineering is called the division of staff and line functions.

As you know, the terms "staff and line" originate from the military where the line people are the doers, the fighters in the front line. For them to be successful against the enemy, it is necessary to support them with a staff organization which is responsible, through proper planning and intelligence, to determine where the weak spots of the enemy are and to see to it that the line people attack at the right place, with the right weapons at the right time.

Let's translate this to the industrial organization. In marketing it is up to the staff people to see to it that the salesmen are provided with the proper intelligence, including market analysis, such as individual customers' requirements for planning the sales campaign in such a manner that the salesmen can utilize their time and ability with the greatest efficiency. In manufacturing it would be the job of the staff division to provide the proper mill planning and to see to it that the right material is available when and where needed; to point out whenever and wherever standards are not met, be it in either quality, waste, maintenance, efficiency or costs.

Develop Standards

The development and maintenance of these standards—the yardsticks—is one of the most basic and necessary re-

*Rudolph M. Ashner has been an industrial management consultant for over 25 years. With masters degrees in both industrial and mechanical engineering, he pioneered in the development and application of modern mill control systems in the textile industry. As a senior partner in Werner Textile Consultants, whose headquarters are in New York City, he has successfully introduced Wernertex control systems in hundreds of mills throughout the U. S., Canada, South America, Western Europe and the Middle East. His special field covers organization planning, production and sales co-ordination, materials handling and other manufacturing control systems.

quirements to achieve "controlled profits." It is up to the staff organization to compare actual results with standards. Most mills, of course, do have standards for quality or for waste or for labor cost. However, only if standards are established so comprehensively that they are available for every item which may affect quality or cost and only if they are so integrated that they result in a projection of profit or loss, only then can we really say that we have a tool to control our profits. By continually comparing actual developments with our yardsticks and by calculating the deviation from standards, we *can* recognize their effect on our expected profit. Furthermore we must get these results fast enough to permit corrective action before it is too late.

Standards are established by staff organization in close co-operation with line people. For instance, a sales quota or an expected machine efficiency, will become a valid standard only if it is approved as an obtainable goal by the sales manager or production manager. Once this tremendous task of developing the standards has been completed for the enterprise as a whole, it is the responsibility of the staff department to operate like an instrument which will show immediately and continually where and to what extent deviations from standards take place. In addition the staff organization must keep pointing to the danger spot until the line people have corrected it.

If the staff department works in this manner, it naturally focuses attention only on the weak spots. Thus top management can rely on the fact that as long as no off-standard condition is reported, the enterprise as a whole or the individual departments concerned are running according to plan. The principle underlying this method of operation is called "the principle of management by exception," an extremely valuable principle in modern enterprises because it helps cut down red-tape considerably and thus frees important and expensive executive time. For example, instead of requiring a department manager to read the efficiency figures for every machine in the plant, he will receive a brief report showing him exactly which machine is operating outside permitted tolerances. Only those really require his attention.

Balance Of Power

By dividing the various functions in an enterprise into staff and line operations, another great advantage is gained, namely a *balance of power*. The importance of this can not be over-emphasized. In hundreds of mills owners or presidents are plagued by the ill effects of an unbalanced organization or operation. Too often enterprises are either production or sales dominated. Of course, neither is desirable. Even within the manufacturing department, for instance, one often finds a lack of balance between the people responsible for the production and the staff people —the industrial engineering department.

There are two other principles which we have not discussed so far, namely: (1) unity of leadership; and (2) limitation of the number of people reporting to a supervisor.

By unity of leadership we mean that one man, whether he is called the owner or the president, has to be the undisputed leader of an enterprise. That does not mean that he should be a dictator. In reality even he usually is and should be controlled by or responsible to others, whether it be a board of directors or shareholders. However, for the day-to-day decisions within the framework of policy developed by the highest echelon, he should have a free rein. This is particularly necessary today when decisions have to be made fast. We have seen time and again that management by committees deprives an enterprise from the necessary flexibility and requires an undue amount of time. This does not, of course, exclude the use of committees for such functions as long-range planning.

The other principle of limiting the number of people reporting is also based on practical experience, namely that it is usually beyond the scope of one man's ability to give guidance to more than maximum four to six people. If one man is required to have more than that many people reporting to him, effective performance is usually diminished or even lost. This, of course, applies only to managerial functions and not to the lower echelons.

A typical organization chart embodying the principles set forth here would show the president holding the balance of power between his line and staff departments. He would normally have only four people directly responsible to him, his vice-presidents in charge of sales, manufacturing, administration and finance. There may be another one or two vice-presidents in charge of personnel or research, etc., in the larger companies.

Each of the four vice-presidents in turn holds a balance of power within his area of responsibility. The vice-president in charge of sales or marketing, for example, has his line departments which are his salesmen, sales managers or agents. His staff departments, often called merchandising departments, are responsible for the planning and control of sales. On the other side this includes market research, sales planning, product development, advertising and promotion. On the control side it includes market analysis, sales controls and sales and production co-ordination.

The vice-president of manufacturing holds a similar balance of power. His line departments, again the doers, are the spinners, the weavers, the dyers, etc. His staff departments are usually within the industrial engineering department and carry out planning and controlling for manufacturing standards, for quality, wages, maintenance and waste—in combination for manufacturing costs. On the control side, they embody control of all these standards —and thus control of manufacturing, quality, waste, wages and cost. In operating these controls, the principle of management by exception is employed by reporting to the manufacturing departments *only* those conditions which are off-standards and by seeing to it that these are corrected with the utmost speed. Of course, graphs and charts are maintained to show long-range developments but these are used primarily to show trends.

Administrator

A "vice-president in charge of administration" probably is not as common as the others. The necessity for such a position has come about in recent years as a result of the ever increasing demand for facts and figures and the subsequent development of high speed data processing equipment. Even for a medium sized enterprise it has become impractical to have the accounting department, for example, in charge of data processing allowing each of the other sections of an enterprise, such as manufacturing and sales, develop their own figures according to what they deem necessary and practical. It has to be recognized that modern data processing equipment can provide simultaneously all the figures required by sales, manufacturing *and* accounting,

often based on the same source material. Only if we have a man whose specialty is administration and data processing in our organization, one who is company-oriented rather than department-oriented, can we produce all the data in the most economical manner with the necessary speed.

Let me illustrate this briefly. Information flows through the enterprise in three main channels: labor, material and order. For further explanation let's take the order channel as an example. From the moment an order is received and recorded, we can immediately, based on this one record, satisfy administratively the following needs: production planning and control, inventory control, invoicing, shipping papers, commission accounting, control of accounts receivable, sales control, sales analysis and finally, statistical evaluation for market analysis. With proper planning of data processing and with modern data processing equipment (where, by the way, I am not thinking of expensive high speed computers) it is possible to get from the one initial source all this data which is then automatically combined, extended and sorted to give you the desired information speedily and reliably. Quite obviously this cuts across the departmental lines of manufacturing, marketing and accounting.

Just as it is the job of the manufacturing manager to produce the merchandise of your enterprise as economically as possible and at the right time, it is the job of the vice-president in charge of administration to produce the facts and figures for the enterprise as a whole as inexpensively, rapidly and reliably as possible. The same industrial engineering yardsticks should be applied to his functions as to the manufacturing function. Quite obviously this man has to be a specialist in his field. He should not be an accountant who by training and inclination requires accuracy foremost and speed only secondarily. He has to be a man who from an administrative standpoint can evaluate properly the needs of every department and fill them in the best manner. For instance, in the production department and sales department, the emphasis is more on speed —accuracy is secondary. Cost reports or sales information months old are for all practical purposes worthless.

Develop Methods

As in the other cases, the vice-president in charge of administration has his staff and line divisions. The function of the staff division is to develop the administrative methods, plan and set timetables for all administrative work. His line departments are the ones who are producing the data for the enterprise as a whole.

The creation of an administrative vice-president may be somewhat controversial and may seem beyond the practical requirements of a medium sized enterprise. Based on our experience, however, it is an absolute necessity even for a medium sized enterprise in order to reduce the cost of data processing, to speed up the delivery of up-to-date accurate facts, to reduce the red tape and to take economical advantage of modern data processing machinery.

In dwelling on this phase I am motivated by two facts: One, that the reduction of administrative costs is one area which has been badly neglected in most enterprises and; Two, that the requirements for evaluating and comparing the thousand and one facts with the thousand and one standards in sufficiently short a time to be of practical value as a management tool, requires modern data processing equipment. Unless you can tell a weaver this week that last week his cost went too high in a specific section or that his waste was out of line, or unless you can tell this week that a salesman in a certain district has not met his quotas, you cannot expect them to take corrective measure that is of any practical value. To highlight "off standard" conditions for these people 6 or 18 weeks after they occur is only of historical value and it cannot then be fully utilized to improve your profit picture.

The vice-president of finance, or the controller, has a similar organizational set-up under him. His line department handles bookkeeping and his staff department handles auditing. These functions are generally well understood and, therefore, need no further elaboration.

The organizational approach which we have discussed is based on the requirement of evaluating all the company's activities in detail and expressing them in figures, which constitute budgets and in total a forecast of projected, attainable profits. By utilizing intelligently the "management by exception" principle, it can be seen day by day where and to what extent this profit goal is being affected positively or negatively. Thus when required corrective action can be planned and implemented in time permitting control of the enterprise as a whole to the same extent that control of the efficiency of the production machine can be achieved.

It has been said that it is more important to own a market than a mill. A simile can be drawn between good organization and the most up-to-date production means. Practical experience has shown that frequently it is not the mill with the most modern equipment and the best buildings but rather the one with the best organization that shows the highest profit. I don't want to be misunderstood. I am all for good buildings, good equipment, etc., but they all would come to naught without proper organization. The best tool is no good unless the people using it have the capacity to employ it to the greatest advantage.

'Cotton-Like' Synthetic To Be Available Next Year In Experimental Quantities

Montecatini of Milan, Italy, planned to put on steam last month at Terni, Italy, the first of its facilities for the production of the company's polypropylene fibers. Initial production will be limited to some 10 million pounds on an annual basis, and will consist of staple fiber, continuous multi-filament and mono-filament yarns. Current plans are to have experimental quantities available in the U. S. early in 1960.

Offered in staple form on the Italian market at approximately 60 cents a pound, the fiber is reportedly drawing widespread interest because of its cotton-like processing qualities. Fabrics made from the new fiber are said to have the appearance, texture and hand of fine cotton or linen. The fibers can be spun-dyed in an extensive range of colors or directly dyed even when blended with cotton, rayon or linen. Other characteristics cited include: (1) very low specific gravity (0.91) which gives greater material yield per pound of filament and permits the manufacture of fabrics of exceptionally light weight; (2) high tensile strength and good resistance to abrasion; (3) adaptability to machine washing; (4) high resistance to acids and alkalies; (5) absence of static electricity; and (6) lack of pilling. Experimental applications have included both woven and knitted goods, with primary emphasis on woven applications.

The T. Q. C. A. Discusses:

- quality improvements and cost lowering
- how a quality control program works
- the importance of gears

IMPROVED mill operating techniques, new testing means and methods, and a report on research work were the subjects of the technical sessions of the Fall meeting of the Textile Quality Control Association held October 1 and 2 at The Grove Park Inn, Asheville, N. C. Speakers were mill men, educators, research workers and machinery manufacturers.

George H. Bass, Swift Mfg. Co., Columbus, Ga., was chairman of the first technical session. Charles A. Dean, Russell Mfg. Co., Alexander City, Ala., delivered the first paper, "Improvement in Quality and Cost Related to Spinning." Dean's paper fully described the modernization program and resultant savings his company has undertaken in recent months. (The paper is reproduced in full in this issue beginning on Page 51.)

"Improved Quality and Efficiency Through Instrumentation and Basic Research" was the title of a talk by Dr. Kenneth L. Hertel of the University of Tennessee, Knoxville. In talking of fundamental research in general terms, Hertel described a newly developed mechanical sampler which is to be used in connection with Spinlab's Fibrograph. He said the mechanical sampler eliminates the human element in sample taking. Variation in fibrograph sample bundles is caused by different operator techniques, he said.

Hertel also described a new concept in fiber measurement which he called "span length." The span length of a group of fibers is defined as that distance at which 50% of the fibers in a bundle would be held between two pairs of drafting rolls. Hertel concluded by calling for a reawakening of interest in fundamental or basic research. He said that only through this type of work could competition be met and a better job of textile manufacturing be done.

Sven E. Edfors, Saco-Lowell Research and Development Center, delivered a paper "Upgrading Cotton by Combing —The Upsheen Process," to end the first session of the meeting. Edfors said the new process which actually differs from either carding or combing gets its name from the fact that it upgrades the cotton and adds sheen to it. "The Upsheen Process aims to remove by combing a minimum number of fibers over 1/4-inch length," he said. "It also aims to remove simultaneously a considerable amount of neps, leaf and trash."

How does quality improvement decrease cost of manufacture? How does a quality control program work and who is best suited to institute a program? Why is it so important to check gear run-out and what tolerance is allowable? Various speakers at the Fall meeting of the Textile Quality Control Association held October 1 and 2 in Asheville, N. C., answered these and many other questions.

Top Comb Function

The Upsheen Process is done on combers but differs from "scratch combing" in that the top comb function is not interfered with. The usual approach to scratch combing has been to raise the top comb sufficiently to prevent its proper function and to increase the distance between half lap needles and nipper knife.

Edfors said the Saco-Lowell comber can be adapted to comb short staple cotton because:

(1) The feed roll is actuated during the piecing cycle. This means that the beard which is projected into the path of the half lap needles is shorter by an amount equal to the length of feed when compared with the method of feeding while detaching.

(2) The back top detaching roll moves forward when piecing to make room for the top comb and to allow the nipper to approach very close to the bottom detaching roll.

(3) Detaching rolls are held stationary until half lap has finished combing and all danger of robbing by the half lap from the combed web has passed.

To say that some part of the combing operation has been improved and the noil percentage has dropped a certain amount is meaningless unless the amount is expressed in percentages of combing efficiency and detaching efficiency. Improved combing means more noil, improved detaching means less noil, Edfors said. "Scratch combing as it is usually practiced, lowers the apparent noil percentage by increasing the combing deficiency," he said. "The Upsheen Process does the same thing by lowering the detaching deficiency. The prime factors affecting the combing deficiency are half lap and top comb needling plus comber lap preparation."

Edfors reported that years of experimentation have shown that fewer rows of needles and less needles per inch in the front rows will increase the detaching efficiency tremendously without seriously affecting the combing efficiency. In studying top combs with from 30 to 68 needles per

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inch it was found that detaching efficiency remains fairly constant until 58 needles per inch is reached. Then the detaching efficiency drops sharply.

The weight of the comber lap in the new process was found to be limited by the degree of quality required by the end product. Lap preparation was also said by Edfors to be most important to detaching efficiency. He said in conclusion that the Upsheen Process is "a worthwhile supplement to the carded yarn organization due to the quality improvement in the end product. It will pay its own way by improving the running conditions in the spinning room and weave shed."

Second Technical Session

William Esslinger, M. Lowenstein & Sons, was program chairman for the second technical session of the meeting. Jack E. Sands, Southern Utilization Research and Development Division, U.S.D.A., New Orleans, La., was the first speaker delivering a research report, "The Effect of Cotton Fiber Fineness, as Measured by the Micronaire, on Fabric Properties," by himself, Herschel W. Little and Louis A. Fiori. Sands said fiber fineness and the twist of the filling yarns combine in the processing on the loom and produce contraction in the filling of greige fabrics. But, he said, the twist apparently is a stronger factor than the fiber fineness in the range of micronaire numbers most frequently used.

Tests were run on cottons which were similar except micronaire numbers ranged from 2.5 to 6.0, he said. Type 128 sheeting was woven from the yarns. Warp tension was adjusted for width and warp take-up was measured during the weaving. After removal from the loom, comparative measurements were made on the fabrics after 72 hours. Sands noted that crimp varies depending on the yarn and fabric construction. Under normal weaving conditions the weaver cannot control crimp. Variations in micronaire and twist can cause variations in width of as much as ¾-inch.

An entirely new warp tension control device (for details see August TEXTILE BULLETIN, P. 55) was developed for the research work. Asked if the device has a practical future, Sands said, "Our work has shown that it has great application. You can control width in smaller increments than has been our experience with previous types of devices. At present the new tension controller is in a static condition so far as commercial exploitation is concerned."

For mill applications, he said, the engineering details would certainly specify metals of such characteristics to withstand long use. In its position on the loom, the tension is subject to continual but minor vibrations. However, these vibrations can most readily set up fatigue failure. Sands said the controller is a sturdy, practical piece of equipment.

Better Gears

In his paper, "The Unused Key to Quality Control—Better Gears," L. H. Morrison, Medley Mfg. Co., Columbus, Ga., emphasized that only the action of the machine can improve quality. In considering the question of gear run-out, Morrison said his company has fixed its tolerances on gear production to a maximum run-out on the pitch line of 0.0035 inches total indicator reading. This particular figure was chosen for three reasons.

(1) The tolerance at which gear run-out will not show yarn patterns is found by using the formula 1.375 divided by the draft employed. Using this formula it is seen that a gear of no more run-out than 0.0035" would take care of all drafts up to 40.

(2) All drafting gears in all makes of spinning range in pitch from 18 through 24 pitch. Gears are engineered to provide an exact amount of clearance or back-lash on the pitch line and also between the tooth of one gear and the root of the mating gear. To find the proper clearance at the root of the tooth divide 0.159" by the diametral pitch, which in our case would be 18, 20 or 24, and which equals 0.0088", 0.0079" and 0.0066", respectively. The proper back-lash on the pitch line of an 18 pitch gear is 0.004".

Therefore, Morrison pointed out, it is seen that even if each of the gears being mated had the maximum run-out of 0.0035", or a total error of 0.007", when the extreme high point of each gear meets, the resulting amount of error would still not be sufficient to set up interference.

(3) The 0.0035" tolerance selected is within the limits of most good machine shops. This means that gears with this specification can be supplied without an increase in price.

Correcting Defects

Morrison said the technician that finds a yarn defect due to a bad gear has only a 60-40 chance of correcting the defect by replacing the gear with a new one if the gear run-out tolerance has not been specified. He said that this is the average number of bad gears found by his company in over 100 mills. To rid a mill of yarn patterns due to bad gears, Morrison recommended getting gear checking equipment. Check all gears on frames and in stock rooms and discard the ones which run out above the limit indicated by the highest draft run in the mill. For instance, if the highest draft was 30, the mill should discard all gears which run-out above 0.0045" on the pitch line. He also recommended that orders for new gears should read, "These gears must not run-out above 0.0035" T.I.R. on the pitch line. Bore size must be accurate within + 0.0005" and —0.000"."

Morrison also said that a poorly made or worn stud gives the same patterning effect in yarns as excessive gear run-out. Mills should insist on hardened and ground studs. During the gear and stud inspection, the mill should also check its gear mounting brackets. Sometimes there is enough wear in the face of a gear mounting bracket to misalign the stud, he said. Imperfect gears, studs or brackets in the draft chain affect a plurality of deliveries or spindles.

Capacity Overtaxed

High draft spinning actually overtaxes the beam load capacity of conventional spinning gears, Morrison said. The solution he suggested is to produce gears from better, stronger materials than have been used in the past. To add another 20% to the strength of the teeth, he said, whenever practical, change the pressure angle of the gear tooth from the conventional 14½ degrees to 20 degrees. Morrison said making this change may be impractical except at the time of drafting element changeover or in new spinning frame specifications.

Morrison concluded his paper saying, "Better made gears from selected materials mounted on accurate hardened and ground studs sitting at right angles to the gear mounting bracket, when coupled with better maintenance practices,

will eliminate a great deal of the problem of wear, and save your company a tremendous amount of money."

Tangible, Measurable, Saleable

"Measures of Quality Control From Fiber to Consumer" was the title of a paper delivered by Cleveland L. Adams, Head of the School of Textile Technology, Alabama Polytechnic Institute, Auburn. "In setting up a quality control system or in re-examining one which is in effect," he said, "some of the specific things which should be done are: (1) find out what is being done; (2) determine the key points of control; (3) set up quality standards; (4) decide the best program for attaining desired results; and (5) put the system into practice." Adams noted that a quality control system should: first—aim to prevent off-standard quality; second—find off-standard quality when it exists; and third—find the source of off-standard quality.

"Quality control is tangible, measurable and saleable, and should be utilized to build a sound foundation for tomorrow's reputation," Adams said. "Any system installed should be practical, simple and useful."

Specific things which should be done in setting up a program or in re-examining one already in use were discussed by Adams.

(1) Establish existing quality level of products and processes. Use available reports and records being kept as well as results of immediate tests.

(2) Determine machine capabilities. For the raw material being used and at the speed, production rate and other running conditions determine the quality level which can be expected from the machines and processes.

(3) Decide key points at which control is desirable.

(4) Set quality standards. Since perfection in manufacture is impossible to attain and costly to approach, the job is to locate that point of excellence where the degree of perfection is as high as possible for the allowable cost. The key points of control as well as standards should be worked out in session with overseers concerned and control men. Standards can be raised from time to time as progress is made. The program worked out by these men would, of course, be subject to approval of top management. Finding the best methods of control to use is an easy matter compared to the problem of carrying out the program.

(5) Set up and put into operation an over-all company system and objectives for accomplishing desired goals. Determine sample size, frequency of testing, terms to use in expressing variations, uniform reporting procedures, etc. Introduce in the mill the use of simple statistical quality control techniques. Simplify and provide applicable formula with instructions and examples for each specific problem. Make certain that everyone concerned with the program knows and understands the control measures to be used at all points of control and gives full support to the carrying out of the measures.

(6) Determine range of control limits within which quality should be maintained. Use control charts to show the state of control.

(7) Co-ordinate the co-operative efforts of the various departments in the mill to enable production at the most economical level and under the most acceptable and satisfying conditions to get maximum amount of production of the highest quality possible for the allowable costs.

(8) Provide in the program a challenge and incentive for pride of performance in workmanship. Create a quality

consciousness which will inspire workers to want to do their best. A lot can be accomplished by measuring the quality and comparing results.

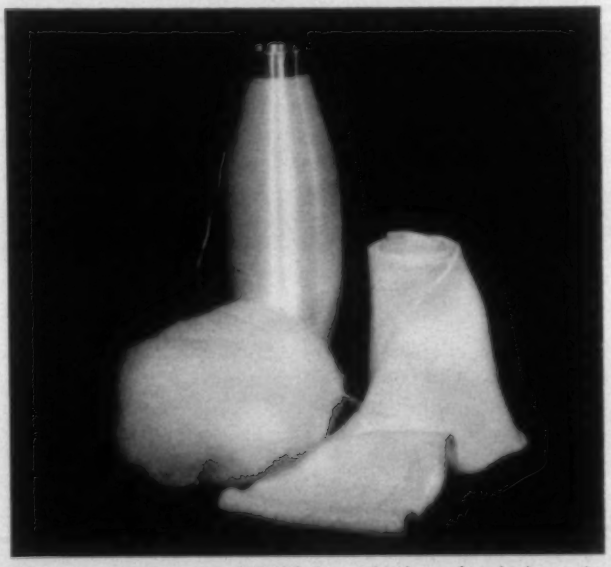
(9) Analyze reports, interpret and evaluate data and provide management with a clear concise report on the state of control existing.

(10) Know quality level of outgoing product and how it compares with customer's requirements and with the competitor's product.

(11) Study specific causes for off-standard quality and list in order of their relative influence. Determine extent of influence, not only on process but also subsequent processes for such causes as excess humidity at drawing on cross section variation of sliver to yarn, defective roving on spinning ends-down, relation of warper stops to loom stops, and of loom stops to fabric defects, and so on. Find ways to prevent these causes from occurring and of correcting them when they do occur.

Adams concluded by pointing out that "Since the manufacturing processes consist of the proper utilization of men, materials and machines, it may readily be seen that quality control is a top management responsibility and should have an increasing portion of management's attention. It is generally considered as a tool of management which maintains a balanced relationship between production, costs, quality and profits. It is a proven tool and is here to stay. With the concerted emphasis on production and cost and without a definite responsibility for maintaining quality, it is likely to suffer. *Management must set the pace.* Today a company not utilizing quality control is behind the times and losing potential profits."

Reeves Producing New Polypropylene Fiber



These are staple, yarn and fabric made from low-denier polypropylene fiber produced by Reeves Brothers Inc.

Reeves Brothers Inc. has begun commercial production of low-denier polypropylene fiber in both staple and continuous multi-filament yarn form. Gauges of individual filaments range from 3 to 22 denier. Yarns can be supplied in a range of deniers to meet specific end uses. Last year Reeves began commercial production of large-diameter polypropylene monofilaments for industrial uses. The low-denier fiber now produced is expected to have a far wider range of potential uses.

RUSSELL MFG. CO. SHOWS

Improvements In Spinning Costs and Quality

By CHARLES DEAN
Russell Mfg. Co., Alexander City, Ala.

IN order to stay in business in times such as we are facing today, we need more than ever before to make improvements in the quality of the yarn our spinning mills are producing. As quality and cost are inter-related, we need also to work toward reducing costs while we are endeavoring to improve quality. From experience we have found that we cannot depend on higher prices to increase our profit. It seems that our only alternative to increase profit is to reduce costs.

A properly organized and equipped quality control department can play a major role in helping to make these two factors a reality, when the information gained from the modern testing machines available is transmitted into direct and decisive action. This type of program can achieve the maximum quality production for machinery of any make or model. The successful program must also have the guidance and backing of the top mill management as well as the co-operation of the individual mill superintendents, overseers and fixers.

Spinning Modernization

There have been so many improvements in spinning frames and drafting units in the last few years that it has become necessary for all of us to review our own situation in this light; if we are going to remain competitive. We need to weigh the advantages of larger packages, anti-friction rolls, faster front roll speeds, and better drafting units against the cost of such equipment. With the advantage of this equipment we need also to see how long it will take the equipment to pay for itself. It may be that the cost of new spinning may be prohibitive in some cases. It is necessary in these cases to consider frame changeovers.

In one of our mills making warp yarn, we made this changeover on 113 Saco-Lowell 1913, 1916, 1920 and 1930 model spinning frames. In another mill making knitting yarn, we installed new Saco-Lowell Gwaltney 4-inch gauge, 3-inch rings, 10½-inch traverse, 240-spindle frames. Our changeover consisted of new ball-bearing spindles, rings, traveler cleaners, anti-friction drafting units, and anti-friction bearings on the cam, jack and upright shafts in the head end of the frames. The anti-friction bearings on the shafts were necessary to correct the bobbin build and help eliminate sloughing because cheeses for dyeing and warping were made from these bobbins on two Model D Barber-Colman spoolers. All of this changeover modernization was done by our own crew and only one frame was out of production at any time.

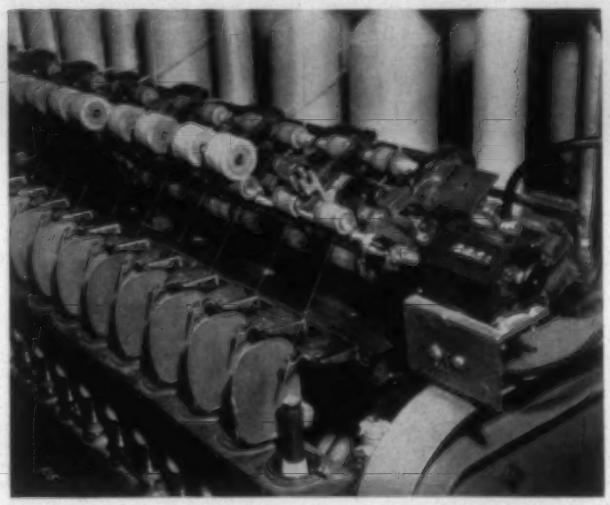
Results Amazing

As this program was completed, the results were amazing. Ends-down-per-thousand-spindle-hours on 40s combed warp went from 30 to 17. With the drastic reduction in ends-down and the 10 x 5 roving bobbins from the replaced 8 x 4 frames, the number of spinners was reduced from 12 to 9 per shift. This savings alone amounted to approximately $31,000 per year. Our 40s combed yarn went from 18.0 Uster quadratic C.V. to 15.0 and the break factor from 2,000 to 2,500. The average ends-down-per-thousand-spindle-hours over a two-year period in this mill has been 17 as compared with our previous average of 30. This includes warp yarn counts of 16s to 41s. During this same period of time our spooler production in pounds in 24 hours, from two Model D Barber-Colman spoolers, increased from 7,975 to 10,694—an increase of 34%.

Cleanliness in the spinning room cannot be over-emphasized. Traveling overhead cleaners blowing lint off one frame for it to settle on the next frame is not enough. Some means of effective removal of lint from the spinning room is necessary. In the mill previously mentioned where we installed new anti-friction, dual-apron drafting units we put arms on our overhead cleaners extending downward to

Modernization, cleanliness and constant quality controls have netted Russell Mfg. Co.: (1) ends-down on 40s decreased from 30 to 17 per thousand spindle hours; (2) evenness improvement from 18 to 15% C.V.; (3) improvement in break factor from 2,000 to 2,500; (4) spinner labor savings of $31,000; and (5) a 34% increase in spooler production. How these improvements were achieved and the operation of the mill's quality control program are detailed in this paper delivered before the Fall meeting of the Textile Quality Control Association, October 1-2, at The Grove Park Inn, Asheville, N. C.

the bottom rail of the frame. These arms contained openings through which air effectively cleaned the frame from the creel to the bottom rail. Trailing this traveling overhead cleaner, we attached another unit with arms extending down to the floor through which an air flow blows toward three centrally located openings in the spinning room floor directly under the frames and extending the length of the room. A vacuum in these openings under the frames removes all lint blown to them by the traveling floor sweepers to a dust house. Through this operation we eliminated two sweepers and two cleaners per shift.



The dual-apron system spinning frame changeover installed by the mill is the Russco Unit built by Cole Engineering Co., Columbus, Ga. Spooler production was increased by doffing at a pre-determined yardage. Notice the counter attached to the front roll on this frame.

Cleanliness And Quality

Cleanliness and better quality work go hand in hand. As the spinning room became cleaner with these new improvements, all the workers took on a new lease for keeping everything clean, even to their own appearance. This also extended to the outside of the mill. All empty soft drink bottles are placed in bottle racks, and paper and trash are put in available containers. Cleanliness pays off in so many ways it is impossible to enumerate all of them. One of the important ones is less fly and clearer in the yarn. This makes for fewer ends-down in spinning, spooling and warping.

In the case of both our remodeled and our new spinning, we found that as soon as the frames started running, our

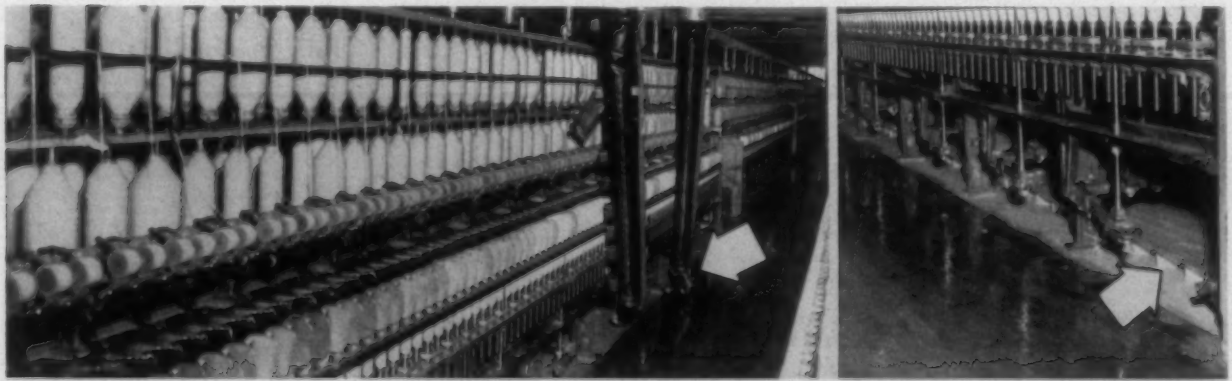
New James Hunter Machine Co. weighing feeders in the Russell Mfg. Co. opening room have automatic controls and extended feed aprons.

quality control program began working more than ever. With increased spindle speed, numerous tests of many types were made. One series of tests was made on several makes of both nylon and cotton spinning tape. The various results from different makes of tape were amazing. We selected the brand of cotton tape that seemed to have the best grip on the whorl and made the actual twist per inch closest to the mechanical twist. Various travelers and bobbins were tested and the ones that performed the best were selected.

Through time and motion studies we found that our spinners could handle 120 operations per hour. With the increased front roll speeds we were running, we calculated the pounds of yarn per hour per frame and also the number of roving bobbins that would creel per hour. After extensive ends-down tests, we determined the average ends-down per hour for each count. By adding these ends-down with the number of roving bobbins that would creel per hour, we had the operations per hour per frame for each count. The number of spinners' sides on 40s combed was increased from 25 to 34, and in the same proportion on other counts.

One of the biggest changes in our program of quality control in spinning was made after we started testing with

(Continued On Page 83)



Russell's frame cleaners are trailed by a floor sweeper *(left)* which blows lint into vacuum openings under the frames *(right)*.

CHATHAM MFG. CO. FINDS THAT

Preventive Maintenance

CAN CUT COSTS AND INCREASE PRODUCTION

By RAYMOND E. HENDERSON
Vice-President
Chatham Mfg. Co.
Elkin, N. C.

A PERIOD of unsatisfactory business always brings about a close examination of all areas of expense. Of necessity, every business begins to look critically at all its functions in order to find improvement possibilities to at least mitigate the severity of declining business. Beginning in 1954, business in the textile industry was not at all satisfactory, and a number of plants have been either merged or liquidated since that time. This situation continued until near the end of 1958.

After a good deal of discussion in our own business, and with the knowledge we had of our operations, we decided that the area of plant engineering and maintenance offered good potential for cost reduction and general improvement. With this in mind, we set out on a program in one of our medium-sized departments to install what we termed a Preventive Maintenance Program. All of the possibilities for improvement which we could anticipate were listed as follows:

(1) Increased production
(2) Reduced direct labor cost
(3) Reduced supply and repair cost
(4) Reduction of defective goods
(5) Reduction of waste
(6) Reduction of power cost
(7) Reduced maintenance labor cost

Cautious Approach

Our approach was made slowly and cautiously, because we were exploring new territory as far as our organization was concerned. This program was started in early 1955, and the first move was to organize an overhauling crew of four men. We set out to take the 90-odd machines in this department, one at a time, and bring them up to the highest level of good mechanical condition.

Members of his crew were selected carefully as to their competence in the maintenance field and were set up under the control of the plant engineering department. Heretofore, the upkeep of machinery and equipment was the responsibility of individual production department heads. These men, being responsible for the multitude of duties in running a department, could give little time and thought to proper machinery upkeep. Furthermore, few production supervisors are trained in the mechanical field, and therefore are not equipped with training and experience to do the refined job in the upkeep of machinery which present-day competitive conditions demand. For that reason, we assigned this critical part of our operations to the engineering department.

On the basis of the graphs shown in Figs. 1 and 2 it can be seen that our work in this department was quite worthwhile. As we gained confidence in the soundness of this program, we began to install it in other departments. To date we have 11 of our 18 different departments operating under this Preventive Maintenance Program, and each in turn has proven its worth beyond our expectations.

As with any new program which is basically sound, you constantly find new possibilities for refinement and improvement that were not at first anticipated.

The overhauling of machinery on a methodical and scheduled basis is nothing new in the textile business. It has been done with varying degrees of satisfaction, over a period of many years. While overhauling is an important part of this whole concept of Preventive Maintenance, it is only one part. In addition, we have instituted frequent checks and repairs to critical parts of the various machines between overhaulings.

We have also set up areas of control to insure uniform spindle and front roll speeds on various goods. At the same time, we have organized a program of inspection and overhauling of motors and switches on the various machines.

Important Approaches

In refining this operation we have developed the following important approaches:

PERSONNEL—We have a very careful selection of per-

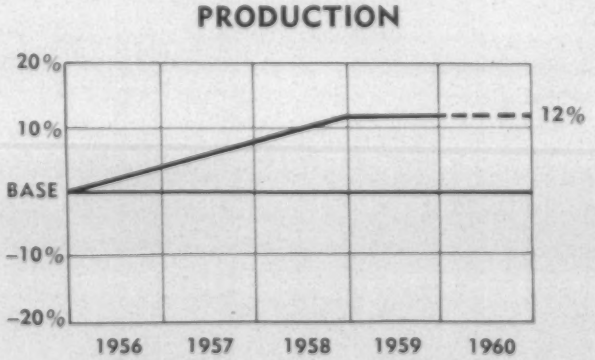


Fig. 1—The preventive maintenance program resulted in a steady production increase from the very first. By 1959 it had reached a level 12% above the base figure. Since then it has maintained that level.

sonnel, who were assigned to this work, both the men who supervised the work as well as the rank and file who actually did the work on the machines. Our experience has led us to know that such selection and careful training is the most important single item in building a maintenance program.

SPECIALIZATION—Regardless of the qualifications of maintenance personnel, no man can be an expert in all jobs to be performed. Dissecting of large or complex repetitive jobs into basic elements will lead to specialization. Therefore, such assignment of personnel will develop a high degree of expertness not otherwise obtainable on the part of individual men. For example, crews are assigned to similar types of equipment, regardless of departmental boundaries. In other words, equipment of the same general type even if located in different departments, were assigned to one group of specialists.

STANDARDIZATION — Without proper standardization of machine parts, work simplification becomes a well nigh insurmountable handicap. If corresponding parts on similar machines were not interchangeable, then each replacement becomes a specialized job making it most difficult to establish satisfactory simplification. Without standardization, even the stock of standard parts becomes extremely complicated. This is an important factor in some industries that have large numbers of similar machines.

COMPONENT PARTS—This is a procedure which has been used to advantage in the electronics industry. There are many places where it can simplify machinery mainteance also. This principle is to replace faulty assemblies as units, rather than repair them in the field. The assembly is sent to a repair area to be reconditioned, where facilities and time will permit a thorough job. In this case, complete and extra assemblies must be provided.

LUBRICATION—As our work progressed, it was apparent that lubrication was at fault in many instances, so a lubrication engineer was added to the staff. In addition to specifying lubricants, he actually supervised the men in order that lubrication cycles could be established and adhered to. In addition to keeping machinery lubricated on schedule, these men were given the task of checking and turning in daily check sheets listing all points which gave evidence of wear or which needed attention from the maintenance men.

SEMI-SKILLED AND UNSKILLED LABOR — By breaking down complicated jobs into component parts, many of these smaller simplified jobs can be done by less skilled labor, leaving the skilled men to concentrate on those jobs requiring their skills. We have placed quite a number of physically handicapped employees with long service on these jobs. In many cases, these jobs require little physical exertion. Furthermore, many of these handicapped employees are irregular in attendance, but the work will not suffer when some of them are away from the job. Without such usage of handicapped employees (of which every plant has its share), these men become a problem in regular production departments, because they cannot carry their fair share of the load.

DESIGNING AND ENGINEERING—Various parts of machines lend themselves to many improvements when studied by a qualified tool designer or engineer. Much of the "human element" can be eliminated by the use of special tools, gauges, or by redesigning machine parts. Such inadequacies can be corrected on the job by redesigning. There will be some parts which necessitate frequent maintenance that can be corrected in many cases by redesign or modification. There are many examples, as we have proven to our own satisfaction, of machines which will lend themselves to redesign or modification to considerable advantage.

RECORDS—An important aid to simplification is the use of proper and sufficient records to determine where effort for simplification is warranted. Without such records it becomes largely a matter of judgment as to where extended effort and money are worthwhile. With these records the effect of corrected action or redesign of parts can be actually appraised. Furthermore, an adequate supply of necessary parts can be maintained with a minimum tied up in the inventory of such parts.

Our nearly five years of experience in this concept of Preventive Maintenance has convinced us that it is most worthwhile. It has brought our operations to a level of excellence, and therefore economy of operation which we could never achieve before. We are working to the end of setting up all machinery and auxiliary equipment under this program, and anticipate another two years before it is fully effected.

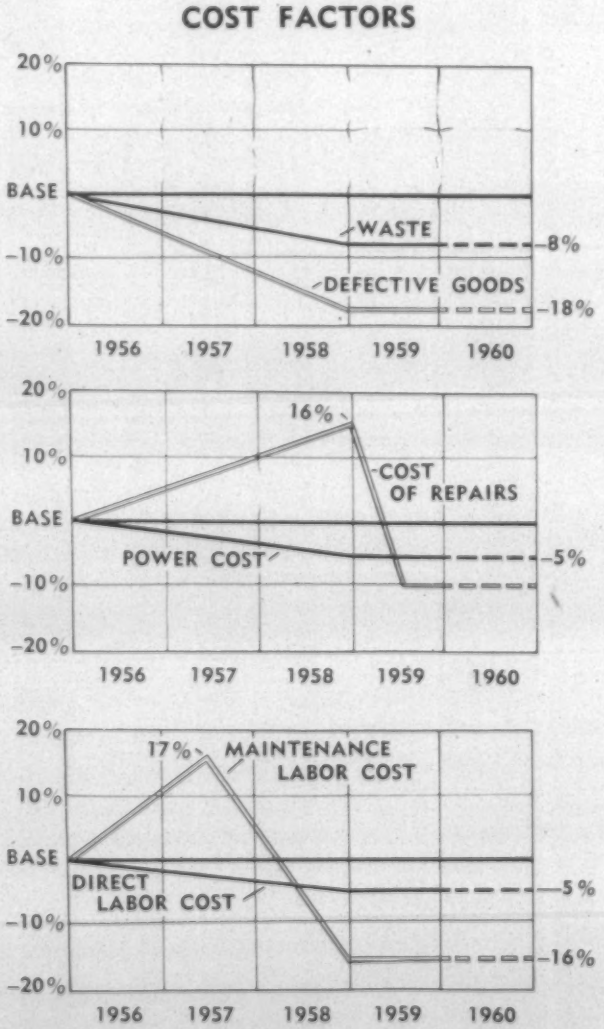
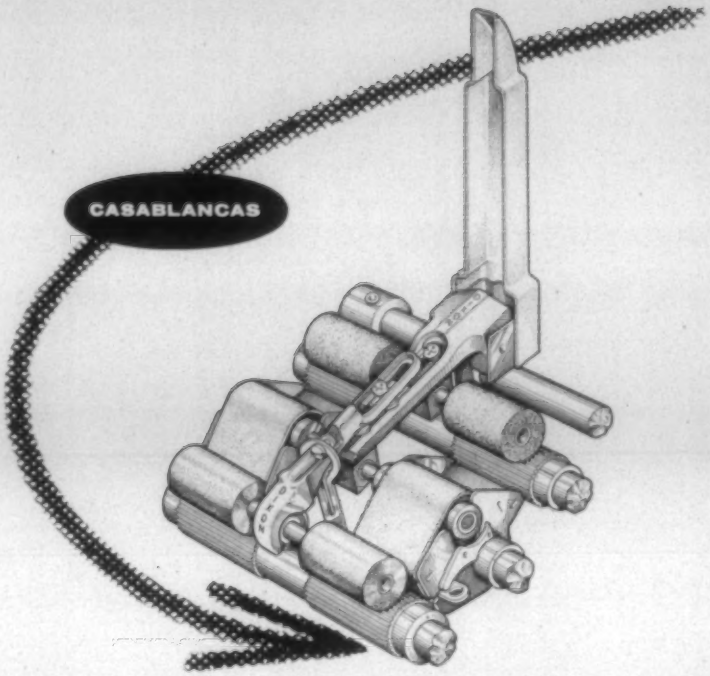


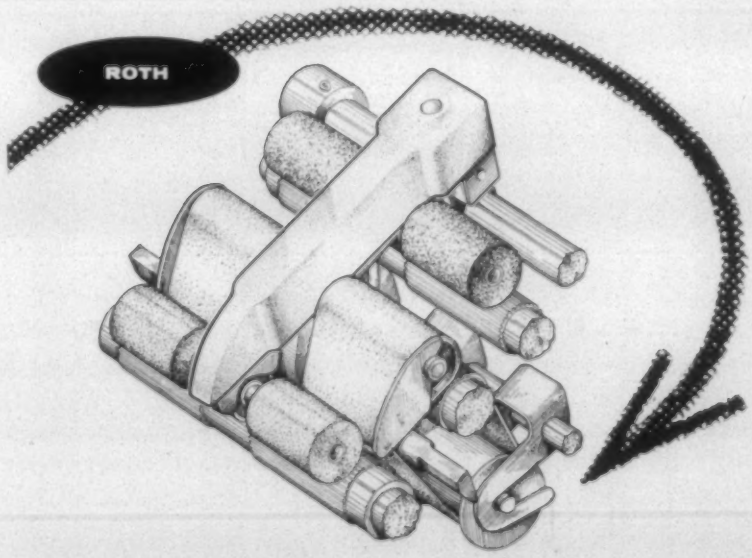
Fig. 2—As shown by these graphs cost of repairs and maintenance labor costs increased by 16% and 17%, respectively, following the inauguration of the preventive maintenance program as the machines were being brought to the highest level of good mechanical condition. However, these figures soon reversed themselves and by the middle of 1959 the cost of repairs had dropped to 10% below the base figure and maintenance labor was down 16% from the base figure. All other cost factors showed a steady decline from the time the program was inaugurated.



Only From Dixon!

ENGINEERED CHANGEOVER PLANS

for Both Spinning Systems



Dixon's multi-step changeovers for *both* Casablancas and Roth spinning systems are the product of over eighty years of specialized service to the textile industry. More than 2,000,000 spindles in leading mills* throughout the country attest to the dependability and high performance of Dixon-designed equipment.

If your spinning is outdated, a Dixon Engineered Changeover Plan is the most economical way to regain your competitive position in the industry. Dixon's broad product line and intimate knowledge of spinning technology make it possible for our engineers to recommend the system which will provide fastest pay-back in your mill . . . in terms of reduced cleaning, elimination of lubrication, fewer ends down, longer drafts, and better yarn uniformity. Furthermore, each Dixon Engineered Changeover Plan — whether Roth or Casablancas — can be installed in one or multiple low-cost steps. Mill profits improve RIGHT FROM THE FIRST STEP! When complete, the Dixon Plan provides the latest word in spinning efficiency:

- Middle and back rolls run on RULON® . . . the oil-free bearing that never is lubricated . . . outwears nylon 12 times.
- The Dixon patented self-aligning front roll rides on a hardened and ground, pre-lubed, sealed, precision ball bearing which is guaranteed for years and years and never requires lubrication.
- All parts are maintenance free. Pay-back on your investment is a matter of months.
- Productivity and quality improve. Yarn is cleaner . . . seconds decrease.

Want proof of performance? Ask our customers . . . also send for actual cost analysis of typical Dixon Changeover Plan which paid for itself in twenty-five months and is now saving $1.50 per spindle per year.

Dixon Corporation, Bristol, Rhode Island.
Southern Sales: Dunson & New, Inc., Box 9202 Greensboro, N. C.; Box 321 Greenville, S. C.; Box 445 West Point, Ga.

*To mention a few.

Mill	Spindles	System
Clifton Mfg. Co.	71,918	Double Apron Roth & Casablancas
Monroe Cotton Mills	18,756	Double Apron Casablancas
Columbus Mfg. Co.	17,000	Double Apron Roth
Crown Cotton Mills	15,232	Double Apron Roth & Casablancas
Deering Milliken	121,300	Double Apron Roth

Dixon

Engineered devices for weighting and guiding top rolls since 1876

Taking top honors among guests in the skeet shoot were *(left to right)* Joe B. Denson, Fashion-Craft, Dalton, Ga., first prize; and Leon Young, Kayser-Roth Hosiery Co., Dayton, Tenn., runner-up. Placing first and second, respectively, for the host group were Jim Rogers and Clay Timanus, John L. Stickley Yarns, Charlotte.

In action on the skeet range are *(left to right)* Joe Denson, Fashion-Craft, Dalton, Ga.; Hubert Fry, Hubert Fry Yarns, Chattanooga; Pete Branton, Comer-Avondale Mills, Chattanooga; and Von Oehmig, Meinhard & Co. Inc., Columbus, Ga.

ANNUAL OUTING

Chattanooga Yarn Association

SOME 400 persons attended the 34th annual outing of the Chattanooga Yarn Association at Chattanooga, Tenn., September 17-18. The two-day meeting featured a 36-hole golf tournament at the Lookout Mountain Golf Course, and skeet shooting at the beautiful Brow Lake Club on Lookout Mountain.

Prize winners in the golf competition included Felmont Eaves, Athens Hosiery Mills, Athens, Tenn., Dick Thomas, Roxbury Southern Mills, Chattanooga; George Bryan, Dixie Mercerizing Co., Chattanooga; and Jack Wyatt, Crystal Springs Bleachery, Chickamauga, Ga. Top winners in the skeet shoot were Leon Young, Kayser-Roth Hosiery Co., Dayton, Tenn.; J. B. Denson, Fashion-Craft, Dalton, Ga.; James Y. Rogers Jr., John L. Stickley Yarns, Charlotte; and Clay Timanus, Stickley, Charlotte.

The association's annual banquet, floor show and presentation of prizes took place at the Read House, Chattanooga.

Members of the association include American & Efird Mills, American Enka Corp., American Thread Co., Barnhardt Brothers, Burlington Industries, Celanese Corp. of America, Comer-Avondale Mills, Henry Crumbliss (Cannon Mills), Dixie Mercerizing Co., The Duplan Corp., The Du Pont Co., The Elastic Corp., Elastic Yarns Inc.,

Top winners among guests in the 36-hole golf competition were Felmont Eaves, Athens Hosiery Mills, Athens, Tenn., first place; and Dick Thomas, Roxbury Southern Mills, Chattanooga, runner-up. Host winners were George Bryan, Dixie Mercerizing Co., Chattanooga, first place; Jack Wyatt, Crystal Springs Bleachery, Chickamauga, Ga., runner-up.

Swapping putting tips are *(left to right)* Ernest Rees, Elk Cotton Mills, Fayetteville, Tenn.; Lane Verlenden, Standard-Coosa-Thatcher, Chattanooga; Jim Wilkins, Powell Knitting Co., Spartanburg, S. C.; and Tom Brown, Celanese Corp., Charlotte.

Getting ready to fire off the first tee are *(left to right)* R. P. Hardeman, Riegel Textile Corp., Ware Shoals, S. C.; Jeff Gilreath, Whitecliff Rug Co., Niota, Tenn.; V. I. Prewett Jr., V. I. Prewett & Son, Fort Payne, Ala.; Charles Eagar, Standard-Coosa-Thatcher, Chattanooga; Jack Akin, R. D. Durham & Son, Fort Payne, Ala.; George Bailey, Comer-Avondale Mills, Chattanooga; and Emil Davis, Standard-Coosa-Thatcher, Chattanooga.

Filatex Corp., Franklin Process Co., Hubert O. Fry, Walter T. Forbes Co., C. D. Gott Co., R. H. Griffith, Harriet-Henderson Cotton Mills, F. K. Johnston Co., Johnston Mills Inc., Kahn & Feldman Inc., Leon-Ferenbach Inc., Madison Throwing Co., Ray-Ser Dyeing Co., Mitchell F. Simmons, Standard-Coosa-Thatcher Co., Textiles Inc., U. S. Rubber Co. and E. W. Windle & Co.

Associate members include Candlewick Yarn Mills, The Chemstrand Corp., Cobble Bros. Machine Co., H. E. Crawford Co., Crompton-Richmond Co., Crystal Springs Bleachery, Fidelity Machine Co., Hemphill Machine Co., Laconia-Cooper Co., Marvel Specialty Co., Meinhard & Co., Paramount Textile Machinery Co., Scott & Williams, Smith Drum Division of Turbo Machine Co., Sonoco Products Co., John L. Stickley, The Torrington Co. and the Trust Company of Georgia.

Taking a long look at the first hole are *(left to right)* C. W. Joiner, Standard-Coosa-Thatcher, Chattanooga; Bob Freese, American & Efird Mills, Mount Holly, N. C.; King Jones, Sweetwater Hosiery Mills, Sweetwater, Tenn.; Pete Branton, Comer-Avondale Mills, Chattanooga; Jack Jones, Sweetwater Hosiery Mills; and Bill Chestnutt, Niota Textile Mills, Niota, Tenn. Seated in the caddy cart *(left to right)* are John Everett, Philadelphia Hosiery Mills, Philadelphia, Tenn.; and Tom Smotherman, American & Efird Mills, Mount Holly, N. C.

 # 6 in a series reviewing the "reasons-why" for the consumer acceptance of Arnel

ARNEL'S "STAMPS" OF CONSUMER APPROVAL

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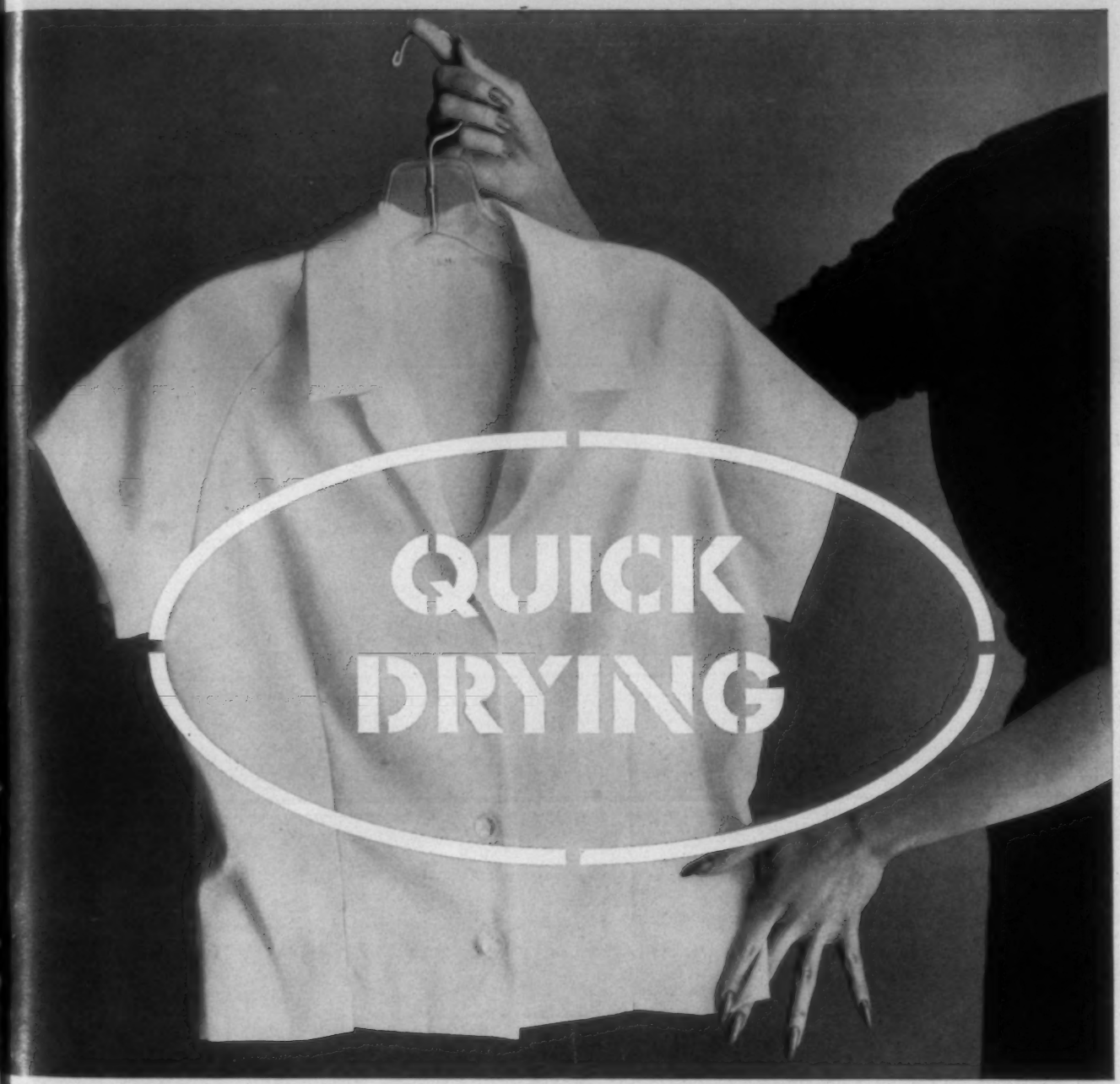
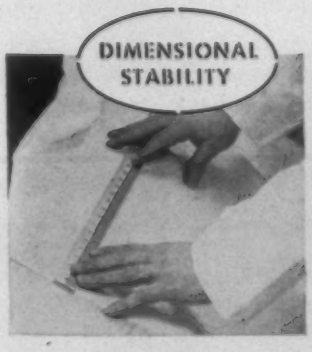
Arnel . . . a





ARNEL*

*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

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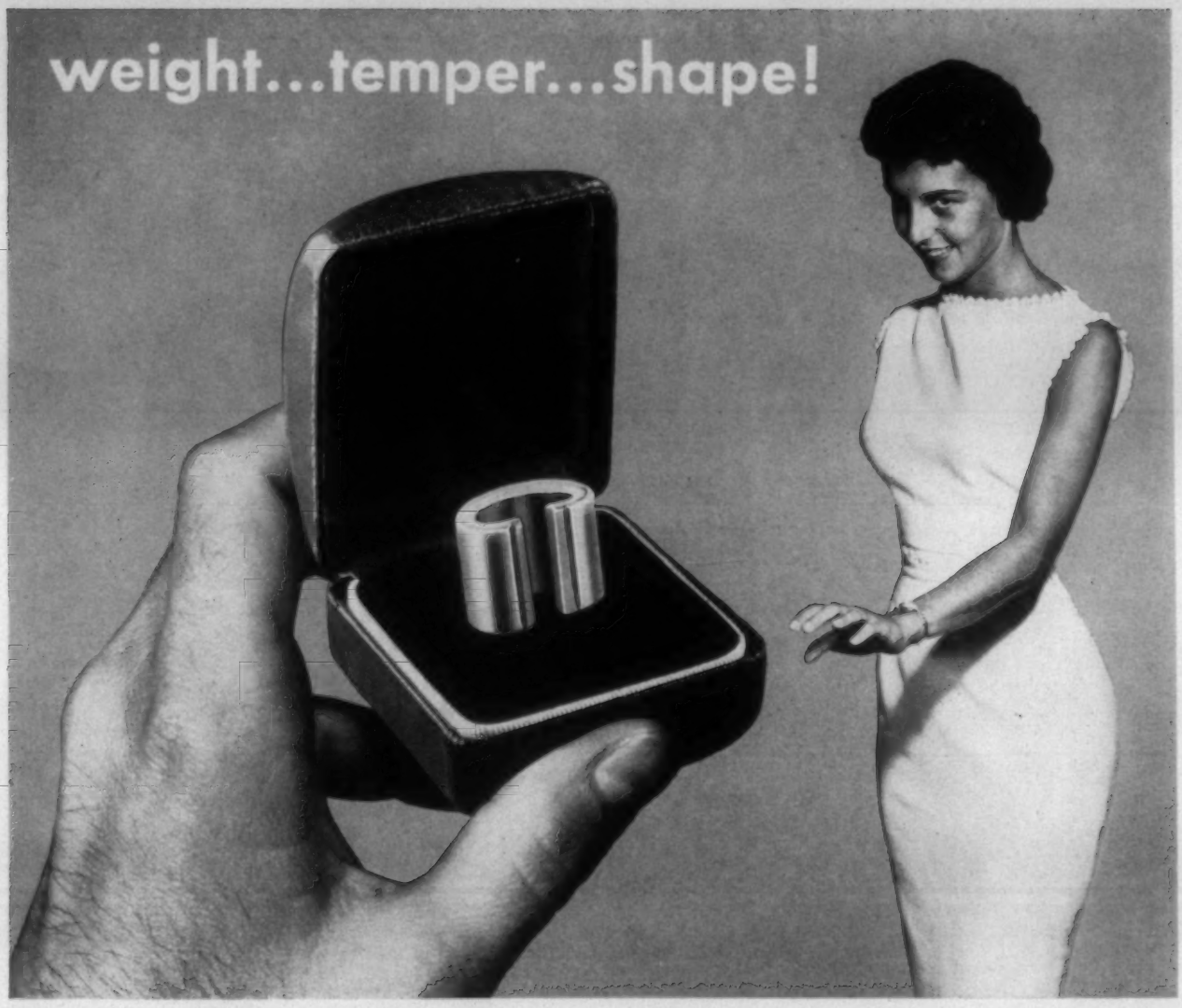

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American Textile Machinery Exhibition - International

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A. T. O. E. members answer

CARDING QUESTIONS

Question No. 1—What has been your experience with the new type split flat clothing, granular cards, reduced flat speed, hardened point clothing and metallic clothing?

Mill A: We have some test cards on metallic clothing and find our quality much better except for more selvage chokes in card web. Metallic clothing only makes about one-third the neps made by conventional clothing. We have less flat strips and no stripping waste with metallic clothing. Metallic wire clothed cards don't load any more than conventionally clothed cards. The yarn quality on the test cards is so much better, nep-wise, that it is used entirely for filling yarns.

We will grind our metallic cards as needed. So far we have one three years old and several 2½ years old that have never been ground. The cylinders are clothed with Hollingsworth No. 35 and the doffers are clothed with Hollingsworth No. 29. Flats are covered with conventional 120s wire. We run 1⅛-inch strict middling cotton. We card seven pounds per hour and make 59-grain sliver. We strip and pull chokes every two weeks.

Mill B: We have granular cards with metallic cylinder clothing delivering 96.4% of the stock fed instead of the 94.9% fed on metallic cards with regular top flats. There is no appreciable difference in nep count, card clothing, sliver variation, yarn strength, yarn variation or yarn appearance. Sliver evenness appears to be as good with the granular top as with flat tops.

Our granular tops are running one-inch low middling cotton at 13 pounds per hour. We make 57-grain sliver. We strip every two hours and grind every ten days on fillet clothing. On metallic clothing we strip once per week and do not grind. Results of tests between conventional flat speeds, slow flat speeds and granular cards show:

	1¾ in./min. top flats with metallic cylinder and doffer	0.4 in./min. top flats with metallic cylinder	Granular top with metallic cylinder
Evenness			
cards (cotton)	2.15	2.16	2.15
breaker drawing (cotton)	3.90	3.72	3.81
roving (cotton)	7.3	7.2	7.3
spinning (warp)	15.8	16.4	16.2
Neps (100 sq. in. web)	21	20	23
Yarn weight	20.35	20.25	20.37
Breaking strength	88.18	89.88	86.27
Break factor	1,794	1,820	1,757

When flat speed was reduced to 0.4 inches per minute we found no increase in nep count, no decrease in yarn strength, and no increase in sliver or yarn variation. Flat strips were reduced approximately 1%. Flat strips contain a much lower per cent of long fibers.

Mill C: We slowed our card flats from three to 1½ inches per minute and found that our customers in the knitting trade complained about lint accumulating on their winders and knitting machines. We found the same thing to be true on our winders. We use one-inch and 1 1/16-inch strict middling cotton. We make 57-grain sliver and card at nine pounds per hour. We strip every four hours and grind every 11 days.

We have hardened point wire on two cards. One of the cards has been ground in the six months they have been running. We use 100s cylinder wire and 110s doffer wire. Sliver evenness is good, we have fewer neps, some less card waste and no shedding or loading with the hardened wire.

Mill D: We have slowed our flats enough to reduce strips 1% of input pounds with no noticeable effects in yarn quality. We make 65-grain sliver at 14 pounds per hour out of one-inch strict good ordinary cotton. We strip every eight hours with air and grind every 160 hours. We use 110s wire clothing.

Mill F: We have three cards with split flats. We have found split flats improve the quality of the yarn, reduce neps, and do not cause card loading. We run various mixes of stock from one-inch middling to a waste mix of strips and strict good ordinary. We card 9.75 pounds per hour and make 70-grain sliver.

We have 18 cards on hardened point wire. We strip these cards on a 160-minute cycle and grind every 600 hours. We have 100s wire on cylinders and 110s on doffers. Hardened point wire gives us better quality sliver, less neps due to cards staying sharper and less down-time for grinding.

We are pleased with the results of our trials of metallic wire clothed cards. We strip these cards every 24 hours and grind as needed. On an average we grind about once per year on waste mixes. We have some cards that have not been ground in three years. Our wire sizes range from 7 to 13 points per running inch on doffer and 14 to 20 points per running inch on cylinders.

WASTE SUMMARY

Stock Type clothing	Cotton Mix Metallic	Cotton Mix Conventional	Waste Mix Metallic	Waste Mix Conventional
Flat strips (%)	1.125	2.98	1.55	3.26
Cylinder strips (%)	0.062	0.75	0.124	0.75
Card fly (%)	1.05	1.99	1.74	2.51
Total waste (%)	2.22	5.75	3.44	6.52

Mill K: We have ten cards with split flats. We have not had enough experience with these flats to properly evaluate

What results are the mills getting with developments such as split flats, hardened point card clothing, granular cards and metallic card clothing? Are cotton fiber lubricants useful? What results can be expected from pneumatic picker rack controls? The carding discussions at the Fall meeting of the Alabama Textile Operating Executives, held October 10 at Auburn, centered on these important subjects.

them. So far the split flats appear to be quite satisfactory giving a smooth web with less neps.

We have 11 cards with hardened point wire on cylinders and doffers. Nine of these were just installed and the other two have been in operation since November 1958. Our experience has been that once in good condition from a grinding standpoint, hardened wire will perform satisfactorily for 90 days or more without further grinding. The stripping cycle on these cards has been cut from once every two hours to once every eight hours.

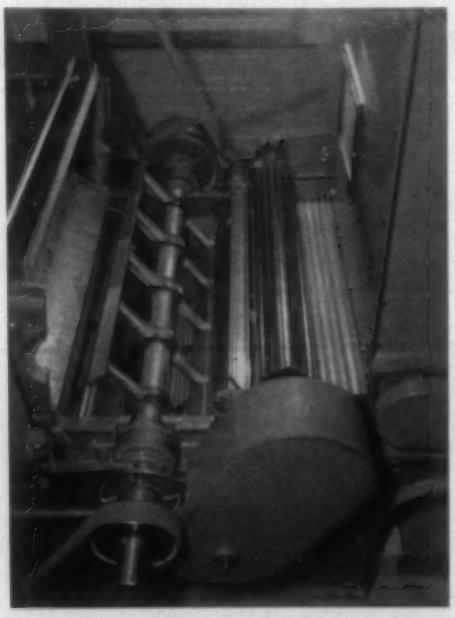
Mill L: We have 245 cards equipped with metallic clothing. Most of the clothing is Ashworth No. 9 with some cards equipped with Hollingsworth No. 27. We do not know the average life of metallic clothing. We have 33 cards with clothing 25 to 30 years old and 78 cards with clothing 20 to 25 years old. We strip once per week and find *no grinding necessary*. We run one-inch strict low bright cotton into 57-grain sliver. We card at 8¾ and 12 pounds per hour.

In the last few weeks we have expermented with various kinds of finer metallic doffer and cylinder wire. We believe that the quality from this finer wire is better but that the life of the wire will not be as great.

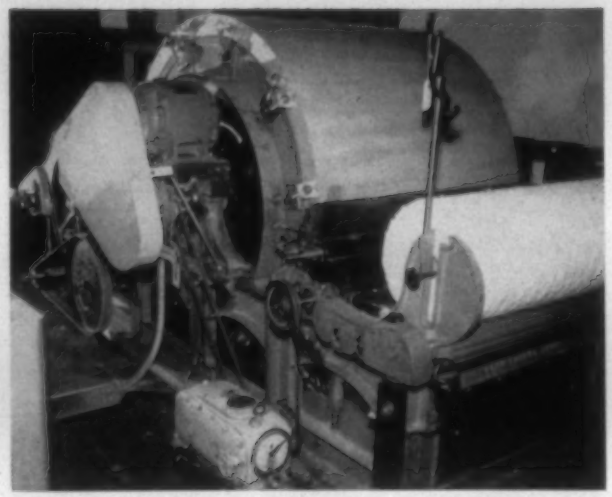
Mill M: We find metallic wire has reduced sliver unevenness, reduced neps, reduced ends-down at spinning, improved yarn break factor and reduced yarn unevenness. Our metallic wire does not cause shedding or loading. We are using Hollingsworth No. 29 on the doffer and No. 35 on the cylinder. We brush strip once each week and have no grinding schedule.

Mill N: We began replacing knee wire in 1952. At present we have 245 cards on metallic clothing with 35 remaining to be clothed. Card sliver variation and neppiness has decreased. We have had a slight increase in shedding with metallic clothing.

We run 7/8 and one-inch good ordinary and strict low middling cotton at 13.4 pounds per hour. Our sliver weighs 62 grains per yard. We have eliminated vacuum stripping.



Oil spray or additives such as U.N.O.X.-1 can be applied to the stock in the breaker section of two-beater pickers such as the one shown here according to A.T.O.E. reporting mills. Other mills reported application of spray in picker hoppers and opening hoppers.



In a test with a granular card similar to this one, Mill B reports the new unit delivers 96.4% of the stock fed instead of the 94.9% delivered from a metallic clothed card with regular flats. The mill also reports no appreciable difference in nep count, card loading, sliver variation, yarn strength, yarn variation or yarn appearance.

Flats are still ground as usual but cylinders and doffers are only "touched up" as the need is indicated. We are presently using clothing with 20 teeth per inch on the cylinder and 14 teeth per inch on the doffer. We have found less loading with 20-tooth clothing.

Question No. 2—What has been your experience with cotton fiber lubricants including both conventional oil sprays and new additives such as U.N.O.X.-1?

Mill B: We apply 0.10% Tex-Spray at the breaker beater on the picker. The only advantage we find is a reduction in lint in the air in carding and spinning. There is no distinguishable difference in lap weight, waste removed, yarn strength, and evenness or twist requirements.

Mill C: We use a conventional oil spray with an application of 0.10% at the breaker section of our two-beater pickers. We have seen no noticeable effect on lap weight or waste removed. We have less fly, cleaner machines, better running conditions, and slight increases in yarn strength. We can see no effect on yarn evenness and no change in twist requirements but do have more neps.

Mill D: We spray 1.5% U.N.O.X.-1 onto our cotton through the top of F-7 blending feeders. We found our lap weight heavier approximately 0.8 pounds. Waste at pickers was heavier and dirtier. We have less fly on pickers and in the card room. Our clearer waste on drawing and roving frames packs firmer. We had no change in twist and showed no change in strength or evenness of yarn.

Mill F: We tried spraying a 1% solution on the stock in our opening room. We could find no effect on lap weight and had more waste removed in opening. We could not see any improvement in cleanliness of machines or quality. In addition, we had trouble keeping the system working. We have discontinued using the additive.

Mill J: We spray a 2% solution of U.N.O.X.-1 in our picker hoppers. Laps gained about one pound and waste removed was of a lower grade. The additive helped the cleanliness of our machinery. We found no significant increase in yarn strength but our ends-down in spinning were reduced. We feel the additive is worthwhile because of the

(Continued On Page 83)

WASH and WEAR

dominates Chemical Finishing Conference discussion

ATTENDANCE at the eighth annual Chemical Finishing Conference, held in Washington, D. C., October 7, far exceeded last year's record of 350, according to the National Cotton Council, sponsor of the meeting. Conference general chairman was Lawrence Marx Jr., president, National Association of Finishers of Textile Fabrics and vice-president, United Merchants & Manufacturers, New York City. Session chairmen were Dr. Richard O. Steele, Rohm & Haas Co., Philadelphia, Pa.; and Lawrence L. Heffner, U. S. Department of Agriculture, Clemson, S. C.

Wash-and-wear treatment and methods dominated the subjects of most of the speakers at the sessions. Summaries by the speakers or extracts of all the papers presented on woven goods appear in the following paragraphs.

Cotton Cross-Linked at Various Degrees of Fiber Swelling

By WILSON A. REEVES
RITA M. PERKINS
LEON H. CHANCE
S.R.R.L.

AN examination of the wet and dry wrinkle resistance and the wet and dry densities of fabric finished with all the known types of wash-and-wear finishing agents was made. All of the finishes applied by the pad, dry, and cure process exhibited good wet and dry wrinkle resistance. The finishes applied by reaction in solution produced fabrics with only wet wrinkle resistance and these fabrics had a more open structure. Examination of the above fabrics led to a study of fabrics which had been cross-linked under various states of fiber swelling. Print cloth was cross-linked with formaldehyde using hydrochloric acid as catalyst in systems with varying amounts of water and acetic acid. The aqueous systems provided considerable swelling of the cotton fiber before and during cross linking, while the systems containing large amounts of acetic acid provided relatively little swelling of the fibers.

The formaldehyde cross-linked fabrics were studied with respect to: (1) wet and dry wrinkle resistance; (2) wet and dry density; (3) dyeability with a direct dye; (4) moisture regain; (5) water of imbibition; and (6) wash-and-wear properties. The state of the fiber swelling at the time of cross-linking had a tremendous influence on fiber structure and on the resulting physical properties of fabric made from the fibers.

All of the fabric properties studied and listed above were altered according to the state of fiber swelling at the time of cross linking. No doubt many other properties not studied here, such as tear and tensile strength, abrasion resistance, permanent set and dimensional stability are affected by the amount of fiber swelling. A high degree of fiber swelling resulted in fabric with wet but little or no dry wrinkle resistance and good drip dry properties. Relatively little swelling resulted in fabric with good wet and dry wrinkle resistance and also good wash-and-wear properties when either drip dried, line dried or tumble dried.

A mechanism is described which explains wet and dry wrinkle resistance in cotton fabrics. The mechanism embodies three important factors: (1) cross linking through primary valence cross links; (2) cross linking through secondary valence bonds; and (3) the location of the cross links. Experimental evidence is presented in support of the mechanism.

Some Progress In The Cross-Linking of Cotton Cellulose

By GIULIANA C. TESORO
J. P. Stevens & Co.

THE cross linking of cellulose with bis quaternary ammonium compounds derived from bis chloromethyl ethers of aliphatic glycols has been studied. This reaction can be carried out under conditions which minimize or avoid side reactions and may be useful for the quantitative study of cellulose cross linking.

By varying the structure of the aliphatic glycol employed in the preparation of the compounds the effect of cross link structure on the properties of the cross-linked polymer may be studied: specifically, the effect of cross link length and rigidity, the effect of hetero atoms and bulk may be investigated, and conclusions may be reached concerning the penetration and reactivity of molecules of varying size and shape.

The reaction might also be employed for introducing specific atoms (such as halogens) into the cellulose molecule. By extending the study to compounds prepared from alcohols and polyols (such as glycerol, pentaerythritol or

trimethylol propane), the functionality of the reagent may be varied. A comparative study of monofunctional compounds has been attempted, employing the pyridinium salts of the chloromethyl ethers prepared from n-butanol, n-octanol and n-decanol. Unfortunately, however, the monofunctional compounds appear to decompose more readily than bifunctional compounds, and optimum conditions for their reaction with cellulose have not been established. A study of mono and polyfunctional compounds is in progress.

The reactivity of the quaternary ammonium compounds may also be modified by varying the tertiary base employed in their preparation. Some of the results reported recently are of interest in this connection.

Although the immediate usefulness of these compounds has not been fully explored, the value of this work is to be found in the aid which it may give us in understanding the broad and highly complex problem of cellulose cross linking.

The Mechanism Of Resin Deposition in Cotton

By H. RATH
E. HERBOLSHEIMER
S. STAPF
German Textile Research Institute

IN the process of imparting crease and swelling resistance by resin deposition it has been postulated that the step expressing precondensate from capillaries between fibers is necessary to attain the highest possible deposition within fibers. The pressure in padding is thought to have the function of "pressing in" of the precondensate solution into the fiber interior. This is the reason for which a maximum degree of squeezing is recommended.

The question arises, whether during impregnation the fibers in a cotton fabric are actually capable of absorbing the required quantity of precondensate and whether it is possible in the padding operation to squeeze out the entire liquid between the fibers and to retain only the solution which has penetrated within the fibers.

However, the absorbing capacity of fibers cannot be increased by pressure. The concentration of precondensate within fibers can be increased only by diffusion due to some effects of the drying process. In this manner, under suitable conditions, a major portion of the precondensate can be deposited within fibers. It is impossible to remove the entire liquid located between fibers, that is the capillary fluid, even if the wet pick-up is considerably below 100%.

If we assume that resin deposition in cotton fibers is largely controlled by diffusion process, it becomes possible to deposit a major portion of precondensate in the fiber interior during drying. These processes cannot be influenced by pressure.

It is shown that by impregnation with precondensate solution, crease resistance can be obtained without pressing or squeezing provided that the rate of precondensate concentration is not unduly high. The pressing or squeezing step in the crease-proofing process has definite functions. However, it has no bearing on the production of crease resistance. Without special precautions padding cannot be generally dispensed with in practical crease-proofing finishing.

Under certain circumstances, it can be reasonably expected that it must be possible to impart crease resistance by spraying precondensate on the fabric instead of impregnating or padding it. An advantage of spray application would be a saving in drying time and costs.

In spray application tests, it has been shown that the quantity applied controls the effects obtained. Crease recovery angle increases when a precondensate of a concentration of up to 300 grams per liter is used but it tends to drop when this value is exceeded. In all finishes optimum crease recovery angles were invariably obtained by application of a precondensate of a concentration of approximately 250 to 300 grams per liter. One-sided effects were frequently observed at higher concentrations.

Generally speaking the fabric hand was not adversely affected by spray application of resin. Hand was the same in sprayed and padded materials. The hand became stiff and hard only if the precondensate solutions used were highly concentrated (400 grams per liter) and where resin add-on exceeded 12%.

From test results and from microscopic investigations, no essential differences in resin distribution and deposition could be found between samples which were sprayed and those which were padded. Fabrics which were sprayed seemed to have a higher abrasion resistance than the padded goods.

The advantages of a spraying method, if one were available, would be: (1) no mechanical stresses on fabrics; (2) reduced drying costs since less liquor can be applied; and (3) increased processing speed since the reduced quantity of water would require less time for evaporation in the drying process. On the other hand it should be noted that fabrics weighing more than 10.4-12.6 ounces per square yard do not readily accept the spray method. However, by using humectants or by pre-steaming, the absorbent properties of the fabrics can be enhanced.

It is thought that the spraying method is suitable for finishing goods sensitive to tension and pressure including ready-made garments.

The spraying process involves two opposing tendencies: (1) a minimum application of liquid is desired in order to minimize evaporation; and (2) spraying limits the concentration of the precondensate solution. It must be remembered that concentrations exceeding 300 to 500 grams per liter, approximately 60% solids, are far too viscous to be sprayed through nozzles. Another difficulty with high concentrations is that the solution is not distributed evenly in and on the fabric giving a one-sided effect and reduced crease recovery angles. Concentration of sprayed precondensate solutions are recommended to be held below 300 grams per liter. This ensures that sufficient quantities of precondensate are applied to fabrics giving a wet pick-up of 45 to 55%.

New Developments in Epoxide Wash-Wear Finishes for Cotton

By ARNOLD M. SOOKNE
JOHN GALLIGAN
Harris Research Laboratories

A broad range of epoxides is available for the finishing of cellulosic fibers, their properties varying so

greatly that they are as different from each other as they are from the commercially available resins. One of the best products examined to date is vinylcyclohexene dioxide. This product performs well in the treatment of cotton, alone and in blends with most commercially used nitrogenous resins. It is water soluble, resistant to color formation on heating (and, in fact, appears to protect cotton to a slight degree in this respect), and produces a given level of crease recovery with a somewhat lower loss in strength after treatment than do other epoxides examined.

However, at the present state of knowledge it requires a higher add-on to produce a given improvement in properties than do the commercial nitrogenous resins. It remains to be seen whether this can be overcome by technical improvements, or whether it is inherent in this and other epoxides. The use of suitably chosen blends may remedy this deficiency in part.

To maintain perspective, it is only reasonable to state that there is room for improvement in the properties of all the experimental and commercial shirts or other treated materials examined to date in this laboratory. Even the best treatments available, including those examined here, produce a rather considerable and inherently undesirable loss in strength, although the end-use item is still sufficiently strong to provide good service. None of the shirts examined attained a "perfect" level of wash-and-wear properties, so that it would perhaps be more appropriate to describe them by the term now used by the British, namely, "self-smoothing" fabrics. Perhaps the looked-for improvements will be found in improved catalysis, or in unconventional conditions of application. Work in this field of study and on the examination of other chemical structures continues.

New Silicone Alloy For Durable Water Repellency on Cotton

By CHARLES J. CONNER
WILSON A. REEVES
LEON H. CHANCE
S.R.R.L.

THE simultaneous polymerization of tetravinyl silane (TVS) and methyl hydrogen siloxane (MHS) was carried out using benzoyl peroxide as a catalyst. The most effective method consisted of polymerizing in methyl isobutyl ketone (MIBK) using a weight ratio of TVS to MHS of 1:5, and a temperature of 80 degrees C. for about 90 minutes. The resulting polymer when deposited on cotton fabric is referred to as an alloy of TVS and MHS.

The alloy was applied to fabrics by several different methods. Two of the most effective methods consisted of depositing ZrO_2 (Fe_2O_3 was just as effective but gave fabrics a yellow color) on the fabric by double decomposition and then applying the alloy from either: (1) an organic solvent, preferably MIBK; or (2) an aqueous emulsion. Both of these methods, however, required several steps. A satisfactory one-step procedure was developed by adding catalysts such as sirconyl acetate or zirconium butoxide to either the organic solution or aqueous emulsion of the alloy. Spray ratings of 100 before and after a soda-soap boil were obtained by both the solvent method and the emulsion method.

(Continued On Page 84)

The American Gas Association hears of

- fiber glass manufacture
- nonwoven fabrics
- gas-fired equipment
- foreign textile competition

PINPOINTING Performance was the theme of the Textile Processing Symposium sponsored by the American Gas Association and held at the Sedgefield Inn, Asheville, N. C., September 28-29. The maintenance and use of various types of gas-fired equipment was discussed. In addition, the symposium included a fresh approach to foreign competition.

Harold S. Walker Jr., A.G.A., was the first speaker of the symposium, presenting a paper entitled, "Pinpointing Performance." Walker noted that the gas industry is the fifth largest in the U. S. in terms of plant investment. He said gas furnished 28% of the national energy requirements and "to give some idea of this fabulous generation of energy, think of 600 Hoover Dams and you have arrived at the amount of energy our industry turns out."

Textile applications of gas-fired equipment discussed by Walker included the slasher. He said the best slashing job is done by "an external air heater—gas fired. This convection heater reaches all sides of the warp threads evenly, so that you don't cause a flat side when the threads must be passed over the steam can." He pointed out that radiant burners on each side of the threads also do a fast job of drying. Other applications mentioned included: (1) singeing; (2) dye vats with gas-fired immersion tubes giving precision controlled heat more economical than steam coils; (3) radiant or infra-red gas burners for pre-drying before fabrics come over steam cans; (4) gas heated calender rolls; and (5) curing operations.

Walker said gas was useful in textiles because it places the heat where it is needed, when it is needed, at the desired temperature, and at an economical cost. He said the use of gas can help speed production and assure a more uniform and better product.

Sand, Limestone, Clay

In his talk on "The Fiber Glass Industry," H. Morgan Rogers, Lockwood Greene Engineers Inc., said fiber glass is produced in two ways from a mixture of approximately one-third sand, one-third limestone and one-third clay. Also small quantities of additives such as Feldspar and boric acid are required.

Of the two production methods, Rogers said, "One, called the direct melt method, reduces the raw material batch to molten glass and the glass is then drawn into thin streams through a group of perforated bushings from this individual furnace."

The other method is first, the making of marbles by somewhat the same procedure as the direct melt operation, except using larger furnaces with the end product being the marbles. These, in turn, are stored and/or conveyed to electrically heated bushings, where they are melted and drawn into filaments, he said.

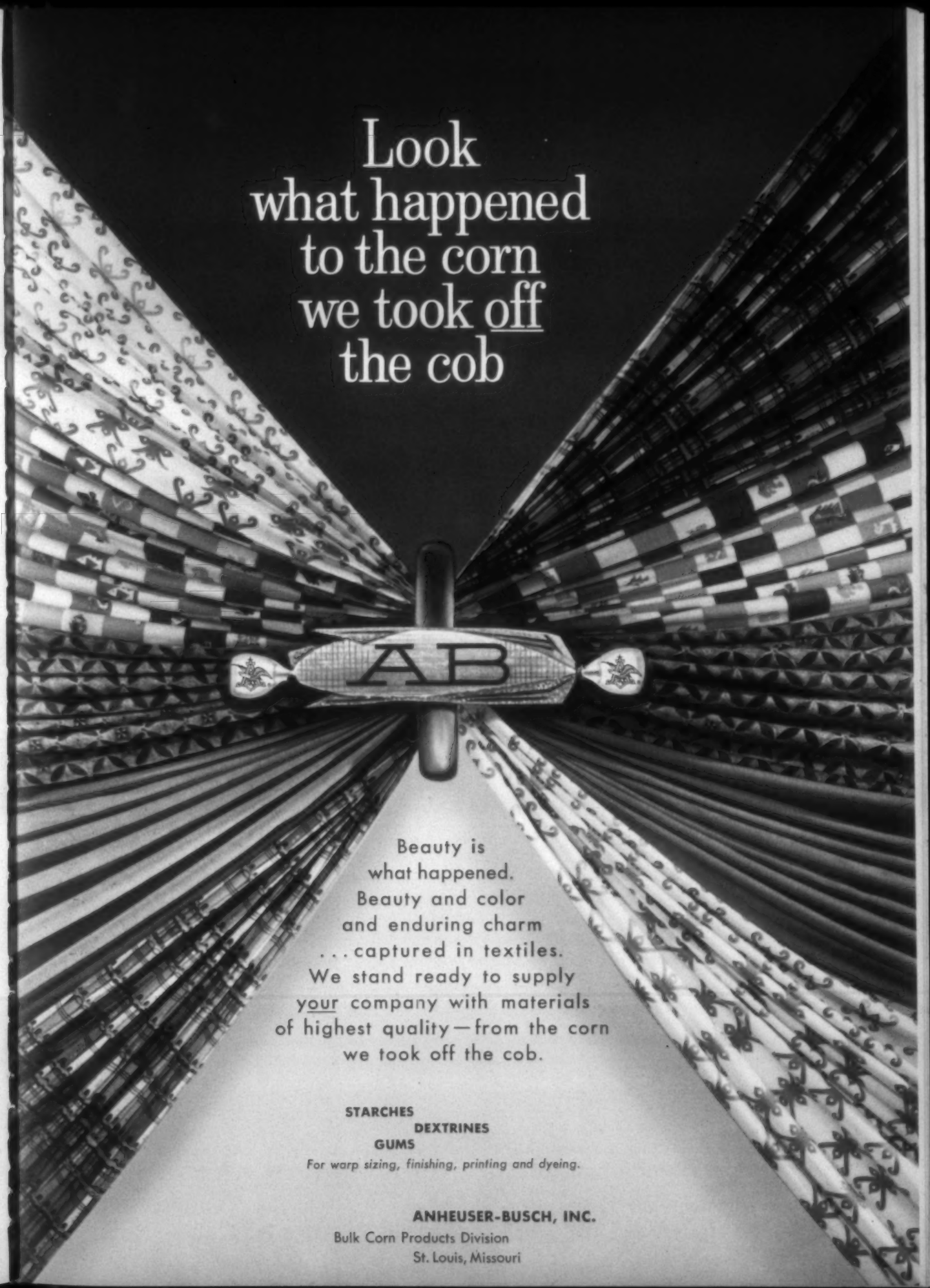
Experience gained in weaving of fiber glass for decorative fabrics has led to its application in a variety of uses such as coated fabrics for lining interior of aircraft, varnished tapes, sleeves for electrical insulation, etc., Rogers said. One of the largest growths in the fiber glass industry is expected to be in the markets where the textile glass fiber is used as a reinforcing agent for plastics. Rogers reported particular interest in the future use of glass for the reinforcing of metal. This creates glass-metal combinations which permit metals to retain their strength under high heat.

"Nonwoven Fabrics" was the title of a paper delivered by H. B. Riehl, Proctor & Schwartz Inc. Riehl noted that much has been said recently about the lagging technology of nonwovens. He said his company feels that this technology is developing faster than is generally recognized. "If by technology," he said, "we mean the application of science to an art, then we indeed have an indication that the lag in nonwoven technology is definitely being taken up. Today we are building machinery ranges to produce nonwoven fabrics from specifications furnished us by the customer regarding fibers to be used, fiber array, binder data (that is, type, temperature range, percentage of binder to weight of finished fabric) and a detailed description of the end product."

What factors should be known regarding the maintenance of gas-fired equipment? How is gas used in the textile industry? On what new fronts are we being threatened by foreign competition? These are a few of the many questions answered at the Textile Processing Symposium held at the Sedgefield Inn, Asheville, N. C., September 28-29, by the American Gas Association.

Research Program

Riehl also noted a research program is under way by the Southern Utilization Research & Development Division, U. S. Department of Agriculture, New Orleans, La., to develop proper techniques for the further use of cotton in nonwoven fabrics. Areas of study include: (1) cleaning, purification and bleaching of cotton; (2) optimum adhesives or binders for cotton nonwoven for specific cotton type end-uses; (3) finishing techniques and application of finishing agents; (4) evaluation of physical proper-


Look
what happened
to the corn
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the cob
AB
Beauty is
what happened.
Beauty and color
and enduring charm
. . . captured in textiles.
We stand ready to supply
your company with materials
of highest quality—from the corn
we took off the cob.
STARCHES
DEXTRINES
GUMS
For warp sizing, finishing, printing and dyeing.
ANHEUSER-BUSCH, INC.
Bulk Corn Products Division
St. Louis, Missouri

ties of cotton nonwovens; and (5) methods and machinery for producing cotton nonwovens.

Ernest C. Hungate, Carrier Corp., noted in his paper, "Textile Air Conditioning," that the first textile air conditioning installation was in Chronicle Mills, Belmont, N. C. some 52 years ago. He described the latest Carrier Rotaspray Weathermaker System in detail.

The Rotaspray System is designed specifically for textile mill installations, he said. Its purpose is to maintain precise control of temperature and humidity within the mill spaces. He reported that cost of the system is justified by improved product quality, by improved manufacturing efficiency, and by reduced maintenance expense.

How Does It Work?

Explaining how the system works, Hungate said, "air enters at the left through outside and return air dampers and is mixed in the cubical inlet plenum. From there, it is drawn into a special direct-driven propeller-type fan. Leaving the fan, it passes through a circular diffuser and spray chamber, and to several spray banks discharging finely divided water particles through Can't-Clog self-cleaning spray nozzles.

"The problem now is to withdraw the treated air from the equipment and leave the spray water behind. This is accomplished by a revolutionary revolving eliminator which rotates due to air flow. This device removes all water particles from the air stream, and returns this water to the spray chamber. In addition, the eliminator removes from the air any foreign particles which have been brought into the unit, and which were not washed from the air by the sprays. Any lint particles which deposit upon the rotating eliminator are flushed from its surfaces by spray water, and are thrown off by centrifugal force created as it revolves. This eliminator rotates due to air passing through it. It requires no driving motor."

The Rotaspray requires no filters, Hungate said. The unit actually invites lint to enter, and when it does, the unit removes the lint from the air stream and returns it to a point where it is automatically collected, ready for disposal. He declared Rotaspray operates for months and even years with no cleaning maintenance whatsoever. All wetted parts of the unit, Hungate said, are made of stainless steel and will last indefinitely.

Gas Uses

"Application of Gas Heat to Textile Finishing Machinery," was the title of a paper by J. W. Powischill and C. I. Geibel, Proctor & Schwartz and delivered by Powischill. Gas has become popular as a heating medium in the textile industry for four major reasons he said. (1) The capital equipment required to use gas is negligible compared to that required for steam heating. (2) The use of gas allows much higher temperatures. (3) Gas is a relatively clean burning fuel which can be controlled within close limits and with fast response to heat demands. With the proper circulation and design of the equipment, gas can be depended upon to give uniform temperatures throughout the equipment. (4) In many areas either natural or manufactured gas is now readily available due to the great expansion of pipe lines.

Powischill said Proctor & Schwartz has used gas on roller curers and dryers for piece goods, loop dryers and curers for piece goods, carpet dryers for latex curing and scrim applications, tenter housing (both conventional penthouse type and the new Proctor-Artes compact low unitized design), truck yarn dryers, and conveyor dryers installed in man-made fiber producer plants drying staple fiber.

Four methods of use of gas burning equipment were described by Powischill. *Direct convection heating,* in which the products of combustion are admitted with the atmosphere and passed directly over the product. *Indirect convection heat,* in which the products of combustion are confined to a chamber adjacent to the circulating atmosphere and serve only to heat this atmosphere, but do not come in contact with the product. *Direct fired radiant energy units,* which are capable of delivering radiant energy comparable to that generated by other sources and which again allow the products of combustion to directly contact the material being processed. *Indirect radiant energy units,* in which the products of combustion are confined within the radiant burner and do not come in contact with the material being processed. He pointed out that most of the company's installations have been with direct convection heating since this is usually less expensive.

Safety Features

Safety features employed on Proctor & Schwartz equipment outlined by Powischill included: (1) adequate explosion release panels in the ratio of 1 sq. ft. of release panel for every 15 cu. ft. of enclosure wherever possible; (2) an adequate purge system so that air inside the machine can be withdrawn a sufficient number of times to remove any trace of gas before the gas burners are ignited; (3) adequate pilot and flame failure protection to insure that once the system is ignited the flame will not inadvertently be extinguished while gas continues to pour into the dryer; (4) spark-proof construction on fans or in moving parts; (5) safety shut-off equipment to shut down the unit in the event that flame failure should occur or that the exhaust system should fail or that the electric power should fail.

"Some Aspects of Foreign Competition" was the title of a paper delivered by Walter H. Hindle, market development consultant. Hindle pointed out the chief factors in the efficiency of foreign competition are based on the lower wage scales and lower standards of living prevailing in the countries of origin. However, he said he feels that "an important secondary factor has gone unnoticed" and it is necessary for us to recognize this factor before it becomes of prime importance. "For us merely to assess our problem only in terms of pay differentials is too facile, too glib, far too dangerous, and quite incorrect," Hindle said. The secondary problem is greatly improved competitive technology.

Our current sources of competition are primarily Western Europe and the Far East, chiefly Japan, Hindle declared. Wage differentials have, in the past, been the major basis for European imports. However, he added, Europe's admiration for and emulation of the American way of living may do much to force higher standards of living with consequent increase in cost of product. This increase will eventually rule out Europe's competition on a purely economic basis but quality, styling, novelty of ideas and the appeal of tradition will still represent formidable competition.

Hindle said European textile mills have flourished be-

cause of having technically trained people in depth. Well-trained technical people were found even in relatively minor jobs. Since the end of the war the situation has changed completely, Hindle said. Technical school graduates are turning away from the textile trade into basic research fields.

Competition For Education

In Japan, however, Hindle said the competition for an education "is at the same time a fearsome and an inspiring lesson. Children in the 11-12 year age group habitually study three hours each evening after school for the number of high school vacancies is limited and the highest grade students only are admitted. The situation with regard to university entrance is still more competitive and the graduates emanating therefrom are engineers of a very high caliber who eventually will occupy, at first, relatively junior positions in the textile mills." The Japanese textile engineer is not expected to be well-rounded in broad scope but rather he is expected to have a specific foundation for building in his field. Hindle prophesied that Japanese, having been known as copyists, will soon "make major contributions to textile technology by virtue of their science, the willingness to work harder than their competition."

This fierce competition for education is also evident in communist-controlled countries. Soviet Russia graduates annually three times the number of engineers as does this country, Hindle said. What will happen when communist countries arrive at the point in their development when with good equipment, highly trained technical people and a controlled labor force, their textile (and other) products are used as instruments of policy in the cold war without regard for anything except the destruction of our industry?

"The problem we face is basic not only to our textile economy but also to our national survival. The firing of the sputniks directed the attention of the nation to our great need, and for several months we debated publicly what should be done about the education of our young people," Hindle declared. "The burning drive to do something practical about our problem appears to have weakened —after all, business is good." With emphasis, Hindle asked, "Could it possibly be that because of our concentrating all our attention and efforts on the difference of wage scales we suddenly wake up one day to find, as did Lancashire (England), that we are being beaten at our own technical game?"

He concluded, "The American textile industry, composed as it is, of thousands of independent concerns has never stood in greater need of a unifying and statesmanlike leadership than it does today."

Planned Procedures

"Planned maintenance procedures involving periodic inspections of gas burning equipment are the only means of assuring economy and safety of operation," according to E. J. Skerkoske, Eclipse Fuel Engineering Co., in his paper

"How To Keep Gas-Fired Equipment in First Class Condition." He said the details of scheduled maintenance procedures vary according to: (1) the type or part of the equipment; and (2) the nature of the service in terms of plant cleanliness and temperature of the air supply.

Skerkoske reported that "lack of planned maintenance of its gas burning equipment is costing industry over a million dollars extra in monthly fuel consumption." In addition, he said, other losses stem from: (1) lowered furnace temperature which may have a decidedly undesirable effect on quality of the product; (2) reduction in the rate of units processed; and (3) equipment shutdowns that are unnecessary. The situation is made worse by the fact that unlike other mechanical devices, gas burning equipment will continue to operate without breaking down, although at progressively lower efficiency. Maintenance is, hence, frequently entirely overlooked, he said.

More Maintenance

Poor application or installation of protective equipment often is the cause of faulty operation of gas burning equipment and can materially lead to increased frequency of required maintenance work. Points to be watched in this respect were listed by Skerkoske as:

(1) Don't attempt to install a pilot or protective unit requiring secondary air in a combusion chamber where no secondary air is available or where the chamber is under more than atmospheric pressure.

(2) Don't attempt to use a thermal expansion or thermo-electric-type unit where instantaneous shut-off is desirable.

(3) Remember, electrical equipment may not operate properly if subjected to serious moisture conditions. This is particularly true of electronic equipment.

(4) Don't assume you know more about the installation than the manufacturer of the equipment and attempt to short-cut his installation requirements.

(5) With electrical equipment, be sure that proper voltage is applied. Valves will not operate properly unless proper voltage is supplied.

(6) Don't expect any system to operate satisfactorily without correct accessory equipment. Use the best obtainable solenoid valves, relays, pilots, and wiring and keep them in good condition.

(7) Remember, no flame failure protective device yet developed will do more than check one flame at any particular moment. This means that multiple burners which will not immediately light from one to the other require a separate device for each burner.

The Textile Operating Executives of Georgia Discuss

Slashing and Weaving

Question No. 1—What has been your experience with various size cooking methods such as homogenizer, jet cooker and sizeometer?

Mill C: We are using a jet cooker to cook our size. This is the best method we have found for making up size. The method gives better and more even penetration which reduces the amount of size per batch. Sizing cost has dropped from 92 to 62 cents per pound. We have found liquid starch gives the best results. We do not use an enzyme with liquid starch.

Mill E: We use a homogenizer with pearl starch. In a test we ran we found the jet cooker was unsatisfactory with pearl starch.

Mill M: We use homogenizers with thin pearl starch. We like the thin pearl rather than thick pearl with an enzyme. We have good results with liquid size, powdered size, and paste size and block wax.

Mill O: Some time ago, we cooked our size with steam which required 1½ hours. A thin boiling starch was used. We tested liquid size and found that it was not satisfactory. We now use a powdered size which comes in a preweighed package. In this manner the size-maker does not have to weigh the size but just uses one package to a mix.

Question No. 2—What per cent stretch do you maintain on your slashers? What do you consider optimum and maximum slasher stretch?

Mill A: On dry work, we run about 1.5% stretch (over-all). Our average set is 1,520 ends, 16/1 yarn on 24x50-inch loom beams. We put 3,000 yards on the beam. On wet work, we run about 4% stretch (over-all). Our average set is 5,800 ends, 14-1/2/1 yarn on 26x66-inch loom beams. The warp is 1,100 yards long.

Mill B: Our average yarn stretch on slashers is 1.75% with a range from 1.5% to 2.0%. We run 31s yarn with 3,146 ends per warp. Our beam size is 44x20 inches. Our warps are 1,600 yards long.

Mill C: We maintain slasher stretch at 1.5 to 2%. Optimum stretch should be 1.5% and maximum 2%. We put 3,700 yards with 846 ends of 15/1 on a 24-inch diameter loom beam with 34 inches between heads.

Mill E: We run 1.5 to 2% stretch and think 1.5% or less is optimum. Our warps are 1,500 yards long. We run 12/1 yarn with 1,080 ends per set on 24-inch loom beams.

Mill G: We try to maintain from 1.5 to 2% stretch on our slashers. It is not safe to go over 3.5% stretch. We put 1,375 yards of 12s yarn containing 2,786 ends on loom beams with 26-inch heads.

Mill H: We have set up a standard of 1.5% stretch but we very seldom get down to standard. Our average stretch is 2%. Our standard seems to be more or less wishful thinking. We run warps 873 yards long of 9s yarn with 2,008 ends on loom beams 39¾ inches between 22-inch heads.

Mill I: We feel that 1.5% stretch is the practical minimum and 2% stretch is the maximum. On 31s yarn with 3,160 ends per set we get 2,000 yards on beams with 45 inches between 22-inch heads.

Mill K: Our slasher stretch is: (1) 1 to 1.75% on sheeting; (2) 2 to 2.75% on twills and sateens; and (3) 5 to 6% on rayon warps. With cotton warps of 4,110 ends ends of 21s yarn we get 2,000 yards on 60-inch loom beams with 26-inch diameter heads.

Mill M: On a set of 5,560 ends of 24s carded yarn, we consider 2.25% stretch optimum with 2.75% maximum. We put 1,390 yards on our 50-inch beams with 26-inch heads. We pack this style firmly on the beam but try to control the density with the pneumatic beam compressor rather than with yarn tension.

Question No. 3—How do you overcome stained or rusty warp selvages that have been caused by metal dust from rubbing action between the ends of the presser roll and the inside surfaces of the beam heads?

All of the mills answering this question did either one, two or all three of the following things to overcome rusty selvages:

(1) paint inside of beams with white lead paint;
(2) coat inside of beam heads with parafin wax; and
(3) replace metal plugs in presser rolls with plugs made of micarta.

Question No. 4—What is your method of determining when rubber-covered squeeze rolls should be buffed?

Mill C: It is time to buff when you first notice hairline cracks, variation in size pick-up, change in roll density or crystallization of roll.

Mill F: We buff our rolls every six months.

Mill I: Buffing is necessary when size pick-up becomes too high or when rolls appear cracked. Buffing every three months will keep rolls in good shape.

Mill K: We determine the need for buffing by visual checks, Durometer tests and desize tests.

Mill M: To determine the need for buffing we keep a careful, daily visual inspection for: (1) a low place which stands out because there will be a little more size showing when the roll is turning (high place shows the opposite);

Discussions at the Fall meeting of the Textile Operating Executives of Georgia, held October 3 at Georgia Tech, centered on various size cooking methods, slasher stretch, rusty warp selvages, rubber-covered squeeze roll buffing schedules, tying-in machine efficiency, plastic loop and drop box pickers, loomfixer responsibilities, and other operating procedures.

(2) a low selvage which lets the yarn run out from under the roll; and (3) low places which let the warp run wet and stick. A portable moisture tester will show a low place in the roll that might not be visible to the operator.

Question No. 5—What causes start-up marks on greige goods and what can be done to reduce or eliminate them?

Mill A: Start-up marks can be eliminated by keeping squeeze rolls in good condition and not letting the slasher stay stopped too long when doffing or when getting ends up.

Mill B: Start-up marks are caused by the slasher standing long enough to allow excess size to solidify on the yarn. It is not necessary to allow ends from a new set to be immersed in the size vat until after the ends are laid in the comb at the front. When the set is finally started, keep the yarn moving at slow speed while making final adjustments.

Mill C: In our opinion, start-up marks are caused by the size partially drying on the yarn while the slasher is standing. The size hardens in the area from size level to the nip of the squeeze roll. If the slasher is started and paritally hardened size is allowed to remain on the immersion roll, start-up marks will result. We wash this area with a small amount of water to soften and dissolve this film.

Mill E: Start-up marks can be eliminated by raising the roller out of size and washing it off when the slasher is stopped.

Mill K: Start-up marks are caused by letting the slasher stand too long. Ease up a few inches while running strings, when picking leases, and when doffing.

Question No. 6—What per cent of the time is your tying-in machine actually tying? How many men work with the tying-in machine?

Mill B: Our portable knotter is actually tying about 28% of the working time. We use a two-man team to prepare, tie and start-up the looms.

Mill C: Our knotter ties 15% of the time. Only one man is used with the knotter.

Mill J: Our ML-6 Barber-Colman knotter ties about 35% of the time. We use two men to perform the work.

Mill K: Our Uster portable knotter is actually running about 75% of the time. We use a three-man crew and we average about two hours per loom getting new warps started up.

Mill L: We use a three-man crew and our knotter averages running 70% of the time.

Mill M: We will average about 50% knotter tying time on warps averaging 5,000 to 5,500 ends. We have three men working ahead of the knotter.

Question No. 7—What has been your experience with plastic pickers (both loop and drop box type) compared with conventional pickers?

Mill A: We have six Polydur drop box pickers that have been running 15 months. The pickers have been re-bushed three times. We have been running seven Denman Gee Wee pickers for five months. They have not been rebushed as yet. We have 24 pickers sold by Louis P. Batson that have been running for the past three months. In our opinion, plastic pickers have a six to one longer life than conventional pickers.

Mill C: Our experience with both loop and drop box plastic pickers has been very favorable. We have some drop box pickers that have been running 16 months. Normal life of our conventional pickers is from three to four months.

Mill E: We use conventional loop pickers because plastic pickers are too hard.

Mill F: We find the life of plastic loop pickers is about the same as conventional pickers. Plastic drop box pickers last two or three times longer than conventional ones.

Mill K: We have run sample tests of plastic loom pickers from five different suppliers. Only one of these shows enough merit to warrant further testing. We are currently running a test of 75 looms on plastic pickers from a sixth supplier. These plastic pickers are running three times longer than conventional pickers but we are experiencing some difficulty in keeping the shuttles boxed. We use both dogwood and plastic shuttles.

Mill M: We have tried plastic loop pickers of several different types. None of them are satisfactory. The life of the picker has been very good but we had too much trouble with bouncing shuttles.

Mill Q: Our experience with plastic pickers has been good and bad. We are trying some now that have been on looms for two months and are still in good condition.

Question No. 8—What has been your experience with laminated picker sticks compared with regular picker sticks?

Mill A: The average cost of a laminated picker stick is about four times greater than a conventional picker stick. We have found laminated sticks last about four times longer.

Mill F: We have found laminated sticks have three times the life and twice the cost of regular sticks.

Mill G: We have run very few laminated picker sticks. The few we are running now for tests seem to be very satisfactory.

Mill M: We have had very limited experience with laminated picker sticks. The results of our tests are not very promising.

Mill O: We have found that the life of the laminated picker stick is much greater than the regular stick. We feel that the high cost is justified by increased life.

Mill P: We use laminated picker sticks on the change end of heavy duck looms, C & K D-3. This stick's cost is

Election of Officers

In elections at the Fall meeting of the T.O.E. Ga., Willis S. James, Summerville (Ga.) Mfg. Co. was named general chairman and Lee Wynn, Canton (Ga.) Cotton Mills, was named vice-general chairman. Dr. J. L. Taylor, director of Ga. Tech's A. French Textile School, was named secretary-treasurer of the group. Taylor succeeds Prof. Herman A. Dickert of the textile school, who has filled the post for the past eight years. Dan Melton, Walton Cotton Mill, Monroe, Ga.; and J. A. Wright, Strickland Cotton Mills, Valdosta, Ga.; were elected to full terms on the group's executive committee.

$6.50. The cost of regular picker sticks of the same type is 59 cents.

Question No. 9—Do you make use of loomfixers to supplement or assist your weave room supervision? If so, what specific responsibilities do you assign to them?

Mill A: We do use loomfixers to assist weave room supervision. The loomfixer is given full responsibility for his section. He is expected to be on the job and report to the supervisor before shift change when weavers and battery hands have been accounted for. Any problems that may arise during the shift are taken up with the fixer on the section. If, for some reason, the fixer cannot handle the problem he will take it up with the supervisor. We have not been practicing this program very long but we feel it has already been an asset to the running of our job and we expect to improve our program as time permits.

Mill P: We use loomfixers to assist supervision in such things as instructing, housekeeping, reporting weaver or battery hand absence at the beginning of the shift. However, loomfixers have no authority over other help.

Mill G: We do not require our loomfixers to help out on supervision. I think unless you give them authority to tell the weavers what they must do, or else, it would only cause bad feeling between the fixer and his weavers. We try to encourage our help to work together and help each other find better ways of running their jobs. Some fixers might be capable of accepting supervisory authority but I am sure they are all not capable of supervisory responsibility.

Question No. 10—What material have you found to be most effective in controlling filling tension in plastic shuttles? Have you found that changing from dogwood to plastic shuttles has affected your filling breaks?

Mill A: We use seven loops of 40-pound test nylon filament to control tension in our plastic shuttles. We have fewer filling breaks since changing to plastic shuttles.

Mill B: We use fur to control filling tension in plastic shuttles. We have noted no change in filling breaks since changing from dogwood to plastic shuttles.

Mill E: We use two nylon loops to control filling tension. We have not had an increase in filling breaks with plastic shuttles.

Mill F: We use nylon monofilament loops for shuttle tension control. We have had fewer filling breaks with plastic shuttles.

Mill G: We use nylon loops in all of our shuttles and find that it is better for our work than bristles. We are having less filling breaks with plastic shuttles than we had with dogwood.

Mill H: We use monofilament nylon loops for controlling filling tension in our plastic shuttles. We have decreased our filling breaks since installing plastic shuttles.

Mill J: We use nylon monofilament loops for filling tension control. Our filling breaks have increased slightly but not enough to affect the job to any degree.

Mill N: In plastic shuttles we have best control of filling tension using bristles and lambs' wool. We have not had an increase in filling breaks with plastic shuttles.

The LOOMFIXER And His Job

By WILMER WESTBROOK

THE parallel motions and the pickers on most looms require frequent adjustment. The loomfixer must learn how to make these adjustments quickly and accurately to keep the looms on his section operating efficiently.

First, be sure the parallel is attached securely to the rocker shaft, level and with no end-play of the shaft. Check the parallel plug and replace it if worn. See that the heel strap is in good condition. Tough sections of old check straps, belting or other scrap leather make good heel straps. With the picker stick in place, see that the parallel shoe rides the surface of the parallel evenly. Use two wrenches and loosen the spring stud nut until the stud can be turned. Tighten the spring enough to pull the stick back against the check strap but not tight enough to move the strap.

Many loomfixers make the mistake of adjusting this spring too tight and then the check strap must be set tighter to make it effective. The result is shorter life for the picker stick, the check strap, the picker, the parallel spring and the heel strap.

The picker is driven onto the stick with a hammer. Some loomfixers use a large open-end wrench that will straddle the end of the picker stick and seat the picker when struck with a hammer.

The picker should not ride upon, nor contact, the lay end plate at any point. With the picker stick resting against the lay-end strap the shuttle spur should center the hole in the face of the picker. Bring the stick forward until it is ¾-inch past the sweep of the stick and adjust the parallel until the picker is just high enough to cause the opposite end of the shuttle to dip slightly as the shuttle leaves the box. If the end of the shuttle is slightly depressed as it leaves the box it will counteract the rising effect as the shuttle enters the shed. If the picker is too high or too low at the forward limit of its throw it can be raised or lowered by means of the parallel adjusting screw. To raise the picker, tighten the screw; to lower it, loosen the adjusting screw.

Loosen the picker stick bolt before the parallel adjusting screw is tightened and be sure and tighten the bolt after an adjustment has been made regardless of whether the adjusting screw is tightened or loosened.

Many loomfixers line up the shuttle spur with picker by pulling the stick against the bumper. This setting is wrong because in operation the shuttle leaves the picker before the stick strikes the bumper.

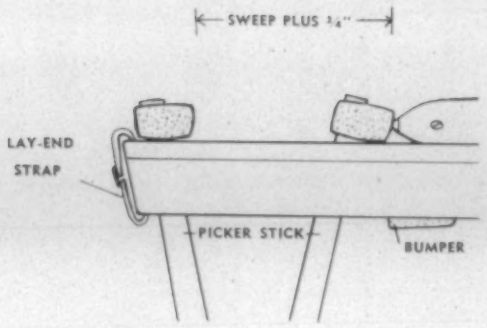
If you have ever lived on a farm, especially as a boy, you have probably thrown green apples or persimmons by means of a hickory stick. The fruit is impaled on the sharpened end of the stick and is projected incredible distances when the stick is swung in an arc overhead. The fruit leaves the stick at the peak of the arc, not at the end of the motion. The shuttle leaves the picker in the same manner.

The shuttle must be aligned with the shuttle vertically as well as horizontally. It is sometimes necessary to cut a small strip out of the inside picker wall to make it fit the stick straight. However, before altering the picker, check the stick to see if it is warped and also check the alignment of the parallel and the parallel shoe.

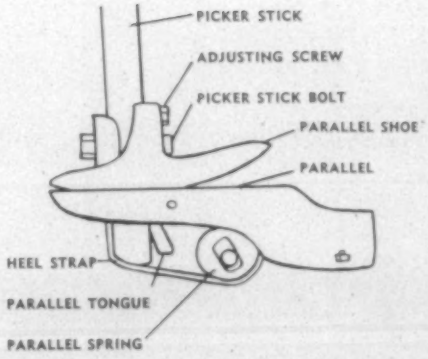
Always fasten the picker to the stick with a screw at the back. A screw in the side of the picker, while easier

Part Twelve

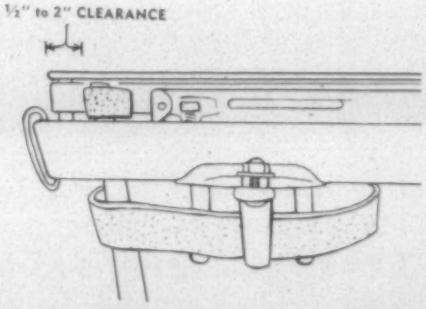
The parallel motion of a loom requires close, precise settings. To obtain the best settings the loomfixer must rely on his knowledge and skill rather than gages and other mechanical methods.



Align the picker with the shuttle spur ¾-inch beyond the sweep of the picker stick.



The parallel motion should be kept aligned, tight and in good repair.



The parallel spring should have enough tension to pull the picker stick back to the check strap but not move the strap.

NOW a whole new with cotton

It is now possible for you to produce without modification of your present equipment wash 'n' wear fabrics of superior properties.

Why? Because there is a new fiber of super strength rayon available. It is AVRON rayon.

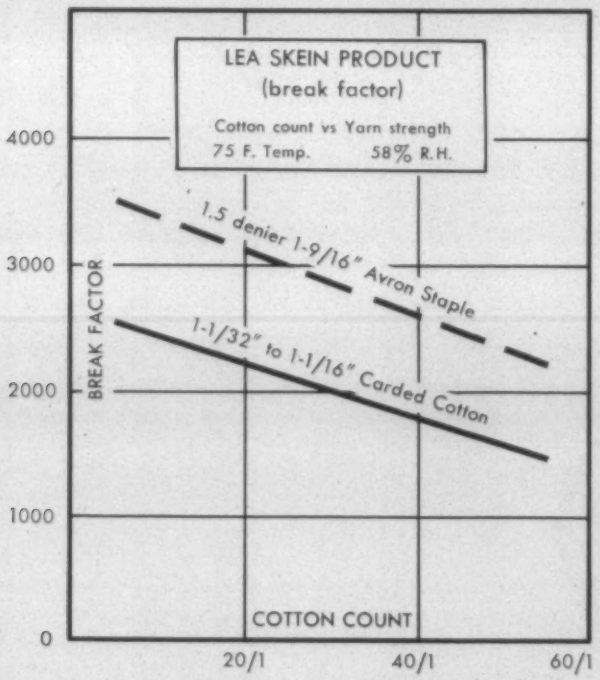
The new fiber excels cotton for single fiber tensile strength in the conditioned state, approximates it for the same property when wet. AVRON is not degraded to the same extent as cotton by resin finishing and, added to cotton, it imparts a soft hand unattainable with cotton alone.

NO CHANGE IN TECHNIQUES NECESSARY. Avron rayon may be worked through the cotton system without any modification of equipment. Because of superior tensile strength, spinning and weaving efficiency is higher for Avron rayon than for cotton. And in any drawing frame blend with cotton, less waste means a cost saving.

EASE OF DYEING. Avron dyes to any shade easily without changing your techniques. In fact, it has a greater affinity for dye than cotton.

LIGHTER FABRICS FOR SAME STRENGTH. Because of the strength of AVRON fibers you can turn out lighter wash 'n' wear fabrics of the same strength as cotton, and a more even fabric because of the uniformity of AVRON yarn. Also, standard weight cotton constructions can be made with 75 to 100% greater tensile strength and tear strength.

PROPERTIES OF AVRON FIBER OF SPECIAL IMPORTANCE TO THE MILL . . .



Stress Strain	100% Cotton	100% AVRON
Single Fiber Tensile (grams per denier)		
Conditioned	3.65	4.07
Wet	4.20	2.96
Single Fiber Extensibility		
Conditioned	10.0	30.2
Wet	13.0	37.0
Moisture Regain, Adsorption	7%	12%

COMPARISON OF YARN PROPERTIES

	Cotton*	AVRO
Yarn Count (Cotton System)	30/1	30/1
Turns/Inch	24.0	16.5
Lea Skein—Strength (lbs.)	72	100
Product	2170	3000
Single End—Strength (ozs.)		
Conditioned	10.2	13.9
Wet	11.8	9.7
Single End—Product		
Conditioned	307	418
Wet	354	290
Single End—Extensibility		
Conditioned	6.1	20.0
Wet	9.3	24.0

**1-1/32" to 1-1/16" Carded Cotton*

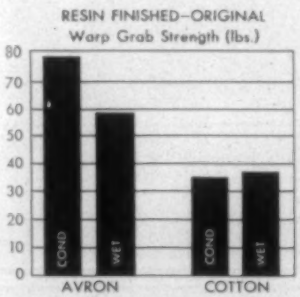
(Finer count yarns can obviously be made from AVRON fibers)

approach to wash 'n' wear fabrics

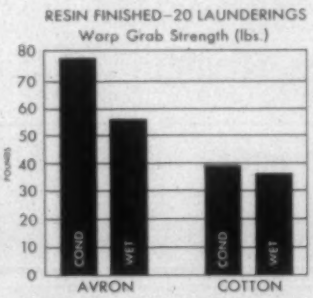
warp and **AVRON*** rayon filling
high strength

COMPARISON OF AVRON AND COTTON IN FINISHED FABRICS

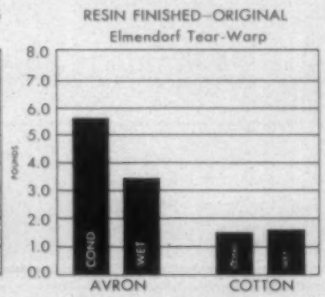
The following charts clearly demonstrate the superiority of AVRON over cotton. Fabrics were tested before and after 20 home-type launderings at 140° F.



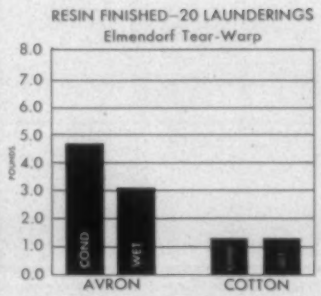
AVRON is about 123% stronger conditioned, about 60% stronger wet than cotton fabrics.



AVRON is 97% stronger conditioned, about 53% stronger wet than cotton fabrics.



AVRON is 273% more resistant to tear conditioned, 106% stronger wet than cotton.



AVRON is 262% stronger conditioned, 138% stronger wet.

HOW COMMERCIALLY-PRODUCED AVRON FABRICS COMPARE WITH MINIMUM REQUIREMENTS FOR WASH 'N' WEAR FABRICS, STATED BY NATIONAL ASSOCIATION OF SHIRT, PAJAMA, AND SPORT SHIRT MANUFACTURERS

	136 X 60 COMBED BROADCLOTH			100 X 58 CARDED BROADCLOTH		
	Required	Cotton Warp AVRON* filling	% Improvement	Required	Cotton Warp AVRON* filling	% Improvement
Filling tensile strength	25 lbs.	44 lbs.	76%	25 lbs.	40 lbs.	60%
Filling tear strength	450 gm	1600 gm	256%	450 gm	1600 gm	256%
Wrinkle recovery	220	250	14%	220	250	14%
Wash-wear rating	3.0-5.0	3.0-5.0	—	3.0-5.0	3.0-5.0	—

*Trademark American Viscose Corporation

For additional information about AVRON fibers and fabrics write directly to AMERICAN VISCOSE CORPORATION, 350 FIFTH AVENUE, NEW YORK 1, N. Y.

AVISCO®

Rayon • Acetate • Cellophane

to install, can cause a lot of trouble. Unless the head of the screw is countersunk it will scar the leather of the front boxes or will hang strands of filling. A projecting picker screw head will cause broken filling, mispicks and jerked-in filling.

Of course, the head of the screw should be countersunk when the screw is put in the back of the picker, too. but if the screw comes loose here it cannot do the damage that it can in the side of the picker.

A loose picker should be replaced and if the stick is too small to hold the new picker tight, the stick should also be replaced.

Keep extra pickers and heel straps on hand so that the least possible down-time will be caused when they need to be replaced. Keep them in a cool, dry place if possible because heat and moisture will cause leather to deteriorate rapidly.

Molded pickers of fabric and rubber or of nylon are generally used on cotton looms. These pickers usually have a longer service life than leather pickers but they are not as pliable. Settings are the same for all pickers regardless of the composition.

Lea Strength X 2?

By FRANK VOGEL

SOMETIME ago our mill was making yarns for a mill widely known for the strength of its cotton yarns, single and ply. Because of press of work our testing laboratory used only a half lea in making tensile strength tests, and then the test results were multiplied by two and were forwarded to the mill we were supplying. One day, a letter came in from this customer advising that our tensile strength test results were not up to those our customer's lab was getting on material we supplied them. The customer requested permission to send its testing head to visit our lab to observe how we were handling the testing.

On arrival, our visitor was surprised at the low breaks we obtained until we informed him that we were using only half leas and multiplying the obtained figure by two. The results we were getting, of course, were similar to those regularly registered in our test reports to the customer. Our visitor then told us that his lab took the entire lea, 120 yards, in making the tests. He suggested we try the same length. We did and it soon became evident that the full lea gave almost consistently higher results than the one-half lea multiplied by two.

The table below gives results of the tests. It will be noted that in only one instance is the one-half lea strength multiplied by two greater than the result of the full lea. Thus, in item B, where the 30-yard lea is slightly lower than the 15-yard lea times two, it may be said that items A and B were yarns so heavy that 30 yards were considered as a full lea.

Item	15 Yds. (Actual Lbs.)	Multiplied by 2	30 Yds. (Actual Lbs.)
A	98	196	192
B	52	104	111

Item	60 Yds. (Actual Lbs.)	Multiplied by 2	120 Yds. (Actual Lbs.)
C	82	164	174
D	38	76	80
E	28	56	62
F	17	34	39

TEXTILE BULLETIN VISITS
CAROLINA RUBBER HOSE CO.
TO FIND OUT ABOUT

Rubber Covered Rolls

AND HOW THEY ARE PRODUCED

EVER wonder how the rubber covering is put on slasher squeeze rolls, or pad rolls, or printing rolls? The process is not as simple as you might think. In fact, applying rubber coverings to rolls is an exacting, complicated and costly operation requiring strict controls all the way through.

To find out how rubber coverings are applied, TEXTILE BULLETIN visited the plant of Carolina Rubber Hose Co., Salisbury, N. C. The company is not only a highly regarded supplier to the textile industry but also one that is a volume customer of the textile industry, consuming over a half-million pounds of fabric annually.

Compounding Room

The rubber roll covering procedure starts in the compounding room. Every roll covering has specific requirements as to hardness, strength, toughness, flexibility, etc. To meet these requirements raw rubber is componded according to exact formulations. Fillers, clay and whiting are added to give the compound stability. Accelerators are added to cure it properly. The ingredients used are weighed carefully to assure the correct proportions in the final product.

A mixed batch of rubber is fed by conveyor from the Bambury mixer to this two-roll rolling mill. Rubber is cut off the milling rolls and turned, continually, during the process which takes 20-30 minutes to complete. Batches being milled weigh between 100 and 150 pounds.

After milling, rubber blobs are fed into this three-roll calender. The batch is drafted into a uniformly thick sheet in the calender which has water-cooled rolls to prevent overheating caused by the friction of the drafting process.

The measured components are placed in a tub preliminary to mixing and blending in the milling operation. Raw rubber is sliced off blocks or bales and is placed in the tub with the other materials.

Raw natural rubber is shipped into the U. S. from overseas in bale form. A bale weighs about 250 pounds. Synthetic rubber comes to the plant in paper bags of about 100 pounds and may be in either block form or pellet form. Some synthetics must be kept under refrigeration until ready for use because they cure in Summer heat.

Milling Operation

The blending of the various ingredients in a compound is done on a rolling mill which consists of a set of two steel rolls. The block of raw rubber is thrown in the bite of the milling rolls and is squeezed out. As the rubber assumes sheet form on one of the rolls the other ingredients are added. Some powdered materials are simply dusted on

the sheet. The rolls continue to squeeze the sheet, and mix and blend the added materials. The sheet is constantly cut off the rolls and turned and allowed to go back through the squeeze.

The mixing process takes from 20 to 30 minutes depending on the type of rubber and the added materials. A batch on the rolling mills may weigh from 100 to 150 pounds.

Another method of mixing used by Carolina Rubber Hose Co. is a machine known as a Bambury Mixer. This unit's action resembles that of a king-sized egg beater. The mixture is charged into the hopper mounted on a platform elevated above the mixer. After mixing for about eight minutes, the batch is fed by conveyor to a rolling mill.

Since a tremendous amount of heat is generated by friction while a batch is working on the rolling mills, the steel rolls have to be cooled with circulating water. Even with this cooling action the compounded rubber is hot enough to burn your hand when it comes off the rolling mill. Synthetic rubber compounds take longer periods of time than natural rubbers on the rolling mills and in every other manufacturing process. Synthetic compounds are also more complicated in their formulation. These are some of the reasons synthetic coverings cost more than natural rubber coverings.

Calender Rolls

After milling, the batch is ready to be applied to rolls. However, it must be converted into sheet form with a specific thickness before it can be used. Calender rolls are used to get the batch in this form. Globs of rubber, soft and pliable after milling, are placed in the bite of the top and second rolls of the calender. The rubber is drafted between the second and thirds rolls and delivered from the bite of the third and bottom rolls. The delivered sheet may be up to 60 inches wide and from 0.050 to 0.080 inches thick depending on the type roller covering it is to be. The rough edges of the sheet are trimmed off with slitters. The trimmed stock is put back into the calender.

At the delivery end of the calender, the rubber sheet is formed into rolls with a lining of cotton duck separating layers. Both the width and the thickness of the rubber sheet must be controlled to close tolerances.

Rolls are built-up by winding sheets of the milled and calendered rubber formulation on the core of the roll. Hand rollers are used to prevent air bubbles from being formed between layers of rubber.

After delivery from the bottom roll the sheet of compounded rubber is rolled up with a cotton or rayon duck liner keeping the layers separated. As with the milling rolls, the calender rolls must be water cooled because of the friction encountered in working the rubber. Too much heat can cause scorching and ruin the compound. Of course, if the rolls were too cold the rubber would harden and not work properly.

Synthetic rubber compounds require longer periods of calendering because the delivered sheet must be thinner than natural rubber. The thickness depends on the composition of the stock.

The rolls of compounded rubber are next taken to the roll building room. Before being delivered to this area roll cores are stripped of old covering, cleaned and sand blasted. The rubber sheet is wrapped on the core until the desired thickness is reached.

Hand-Rolling

While this wrapping process is being done, two operators hand-roll—with a metal roller mounted on ball bearings—the surface of the covering. Hand-rolling prevents air pockets from being made while wraps are put on. An air pocket under the original surface—uncovered when the roll is turned down or ground—would ruin the face of the roll.

End caps are also put on the roll during the building stage of the process. End caps prevent roll contamination and chemical reaction with core metal when the roll is in service.

Several layers of cotton tape (similar to spinning tape) are wound tightly around the built-up roll to make it

ready for curing, or vulcanization. Curing takes from four to eight hours in a steam pressure vessel at a temperature of around 300° F. The temperature and time involved vary, of course, depending on the type and the thickness of the covering.

The temperature in the pressure vessel is allowed to rise gradually and cool gradually. After removal from the pressure vessel, the roll may have to cool for as long as three or four days before it can be turned and ground.

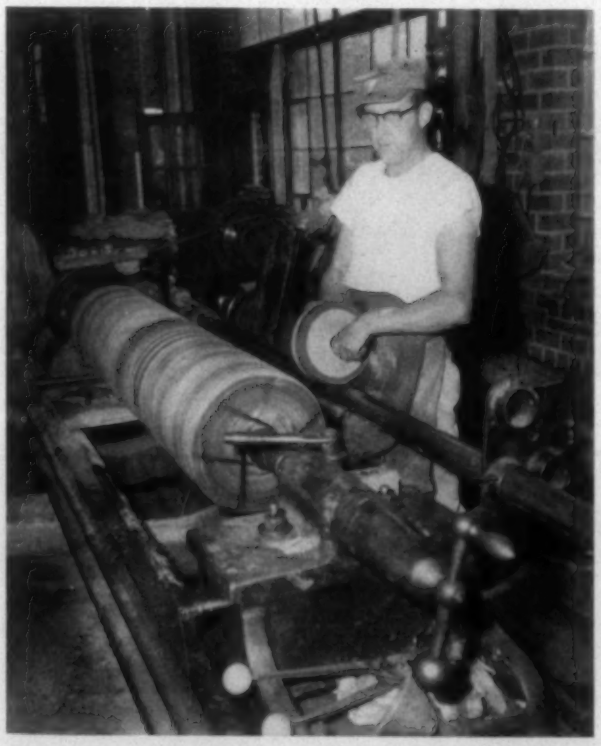
After cooling, the wrappings are taken off and the roll is rough turned. It is then ground to the proper dimensions. The finished roll is inspected for hardness, imperfections and dimensional correctness.

Certain rolls have crowned faces instead of straight ones. The crown is checked with a micrometer which measures rolls as large as 24 inches in diameter. Provided all specifications are reached, the roll is ready for crating and shipment to the customer.

Quality Control

Carolina Rubber Hose Co. has a quality control laboratory perform chemical tests on rubber compounds after the milling operation to assure the correct characteristics in the finished roll covering. A batch is taken out of process if it is found sub-standard.

The company was organized in 1930 by Miles J. Smith Sr. Initial operations were devoted to making automobile tires. Smith later brought in an experienced rubber chemist and changed the company's product to rubber roll coverings and rubber air hose for use in couplings of railroad trains. This type air hose is composed of layers of cotton duck impregnated with rubber and shaped to extremely



Before vulcanization, or curing, the newly built-up roll is wrapped tightly with cotton tape (similar to spinning tape). For winding, the roll is chucked and rotated at high speed. Winding tension is held on the tape by passing it over a friction bar.

The grinding operation proceeds very carefully to assure the correct dimensions and the proper surface characteristics.

exacting specifications as to length, outside diameter, inside diameter, wall thickness and strength. These close specifications are necessary since all railroad cars in the U. S. must have the same size air hose. The company uses about 2,000 pounds of cotton duck per working day—48,000 pounds per month!

In addition to the duck used, Carolina Rubber Hose also spends about $25-30,000 per year for tape to wrap rollers prior to curing. .

Future Looks Good

Business is good, the company reports. If sales hold up as expected, the company's volume on all products for this year will reach $1,900,000. The roll covering department is currently working a 55-hour week. The hose department is working 50 hours per week. The roll covering department has run 50 or more hours per week for the past five years, without interruption. The company employs 102 people.

Miles J. Smith Sr., chairman of the board and treasurer, Carolina Rubber Hose Co., Salisbury, N. C.

Officers of the company include Miles J. Smith Sr., chairman of the board and treasurer; Miles J. Smith Jr., president; David B. Davis, executive vice-president; and Mrs. Elizabeth K. Wilburn, secretary.

Spinning Costs And Quality

(Continued From Page 52)

the Uster Corp.'s Spectrograph. Previous to our acquiring this machine, we would pick up ten bobbins from one frame on the various counts for a weight, break and coefficient of variation test. Now we get a spectrogram from a bobbin on each side of a number of frames.

In this manner of testing, if a bad gear or bad front roll is causing a pattern throughout a side of spinning, it can be corrected and coverage of all spinning can be effected much quicker. The yarn from both sides of the frame is spectrographed after each frame is overhauled. After this type of testing program began, pressure was put on our gear and steel roll suppliers, tolerances were set up and where these tolerances could not be met, suppliers were changed. Each of our spinning mills now has a gear checking machine to check new gears before they are put on a frame.

Speed Increases

At the present time, the average spindle speed for our entire warp mill, consisting of 1913 to 1930 model Saco-Lowell frames with two-inch rings, is 10,282 r.p.m. This is the maximum we could get with the 7½ h.p. motors on these frames. In an experiment to see just how far we could go, new 10 h.p. motors were installed on ten frames. On these frames on 40s combed yarn, we are running an average of 11,145 r.p.m. spindle speed, 135 r.p.m. front roll speed, 5,836 feet per minute traveler speed, and 23.7 ends-down-per-thousand-spindle-hours. (See Table I).

TABLE I—NO. 4 MILL SPINNING

Frame No.	Year Model	Size Yarn	Front Roll R.P.M.	Spindle R.P.M.	Twist Gear	Twist Constant	T.P.I.	T.M.
77	1914	35s	139	11,125	29	746	25.47	4.305
		Combed Warp						
78	1914	40s	134	11,025	28	746	26.18	4.139
79	1914	40s	136	11,225	28	746	26.27	4.154
80	1914	40s	131	10,925	28	746	26.54	4.196
81	1914	40s	134	11,250	28	746	26.72	4.225
110	1916	40s	133	11,050	28	746	26.45	4.182
111	1914	40s	135	11,200	28	746	26.41	4.176
112	1916	40s	134	11,175	28	746	26.72	4.225
113	1915	40s	136	11,300	28	746	26.54	4.196
114	1916	40s	135	11,175	28	746	26.41	4.176

A.T.O.E. Members Discuss Carding

(Continued From Page 62)

lower grade of waste obtained due to fewer good fibers being broken and going into waste. We run $\frac{15}{16}$-inch low middling.

Mill K: We have used Tex-Spray in our pickers for years and have also tried U.N.O.X.-1 in an all waste mix. We do not think the additive helped to any extent. We have been reluctant to use U.N.O.X.-1 in a cotton mix because of the fluorescence of the spray under black light. We applied a 0.2% solution of the additive at the breaker beater section on our picker. We found no effect on lap weight but think the additive cuts down on dust and fly in the room. This helps keep the machinery cleaner and improves running conditions.

Mill L: We applied 0.75, 1.00 and 1.25% Disco CS fiber spray to our one-inch strict low bright cotton. The solution was sprayed in the picker hopper. Our lap weights had to be adjusted but we found no significant difference in cleanliness of machinery, ends-down or breaking strength.

Mill O: We apply a 0.2% solution of Spinzit AO at our picker hoppers. We find our cards run much better and we have less fly and dust in the card room. We use one-inch good ordinary cotton.

Question No. 3—What is your experience with high compression calender rolls on the picker? What is the heaviest lap weight that can be handled successfully? What is the weight, diameter, and ounce per yard of your picker laps?

Mill B: We increased our lap weight from 50 to 60 pounds and could possibly go to 65 pounds with the addition of Saco-Lowell's pneumatic rack control and ball-bearing calender rolls. Our pickers are 40 inches wide and have two beater sections. Our 60-pound laps are 19 inches in diameter and weigh 14 ounces per yard.

Our picker room manufacturing cost was not affected by the change but our maintenance cost was slightly increased. This increase has been due to bearing failures because of increased pressure. The lap weight increase was not enough to change any job assignments in carding. Picker waste has not been affected but lap waste at cards has been slightly reduced.

Mill C: We increased our lap weight 7¼ pounds to 57 pounds with the addition of a Saco-Lowell pneumatic rack control. The lap is now 20 inches in diameter and weighs 14.5 ounces per yard. Pneumatic racks had no effect on cost and maintenance and caused no increase in waste at the picker. We have had a slight increase in waste at the card due to handling. We increased the size of our card cans at the same time the rack control was installed and reduced the number of card tenders from five to four per shift.

Mill D: We increased our lap weight from 44 to 54 pounds with Saco-Lowell pneumatic rack control. Our laps are 18 inches in diameter and weigh 16 ounces per yard. The pneumatic rack costs less to maintain than the conventional rack. Our carding pounds per hour increased 6-7% with no change in card tender's assignments. We have a lap conveyor system which does cause some additional waste.

Mill F: We increased our lap weight from 50 to 80 pounds with pneumatic rack controls on 40-inch Saco-Lowell and Kitson pickers. The lap is 19 inches in diameter and weighs 16 ounces per yard. We have had no effect on picker maintenance costs but make less picker waste. We have made a saving of one operator per shift between opening, picking and carding.

Mill H: We make an 80-pound lap which is 20 inches in diameter and weighs 16 ounces per yard with a Long pneumatic lap control system on our pickers. We formerly made a 54-pound lap. The increased production reduced our opening and picking schedule from 19½ to 16 hours per day. We run $\frac{15}{16}$-inch middling to $1\frac{1}{16}$-inch bright low middling.

We have had the system only ten months and cannot give an accurate maintenance cost. However, maintenance has been very small so far. Picker waste has remained about the same but card lap waste has gone up slightly. Card tenders now have time to mop cards. This job was previously done by opener and picker men.

Mill J: We increased our picker lap weight 10.75 pounds on a 40-inch Saco-Lowell picker with pneumatic rack controls. Our 69.75-pound lap is 17.5 inches in diameter and

weighs 17 ounces per yard. We have this unit on only one picker but feel that job assignments and waste control would improve with a larger installation. We run $\frac{15}{16}$-inch low middling cotton.

Mill K: We increased our lap weight 25% from 56 to 70 pounds with the installation of Saco-Lowell pneumatic controls. We think a 70-pound lap is the heaviest that can be handled manually. The lap is 19 inches in diameter and weighs 16.5 ounces per yard. We have decreased picker helpers necessary for our 24 pickers and increased card tender job assignments. We have also reduced waste.

Mill M: We increased our picker lap weight from 49.5 to 62.5 pounds by extending the weight levers 26 inches and installing solid steel journals and roller bearings in top and bottom calender rolls. We run one-inch middling cotton on our 40-inch Saco-Lowell pickers. The heavier weighting has had no effect on picker maintenance or waste. Our lap is 18 inches in diameter and weighs 14 ounces per yard.

Mill O: We extended our weight levers and increased lap weight from 52 to 62 pounds. Our 16.33-ounce per yard lap is 18 inches in diameter. To date, maintenance on pickers has not increased but we have not run the extended levers long enough to say for sure. Our picker lap waste has gone up.

New Silicone Alloy

(Continued From Page 65)

The alloy finish was equally effective when applied to resin-treated fabrics. Preliminary experiments indicated that the alloy and amino resins could be applied from a single bath by a one-step process.

Preliminary experiments indicated that durable water repellency might be obtained by padding with an MIBK solution of the alloy containing zirconium butoxide as a catalyst and curing at room temperature for several days, no heat curing being necessary.

Some advantages of the new alloy are: (1) excellent water repellency with low add-on (1.0-2.5%) of the alloy; (2) greater resistance to soap and detergent action than the currently used silicones; (3) excellent hand and no discoloration when using zirconium compounds as catalysts; and (4) low curing time and temperature (five minutes at 145-150 degrees C.).

Tufted Textile Dollar Volume Advances Again

The Bureau of the Census has reported the total shipments of tufted textile products during the first half of 1959 amounted to $214.7 million. This report makes the third straight half-year advance registered by tufted textiles. Shipments during the last half of 1958 amounted to $210.3 million. The first half of 1958 saw $171.6 million worth of tufted goods shipped, the bureau reported.

The value of manufacturers' shipments of tufted rugs and carpeting during the first half of 1959 amounted to $187.8 million. This was 5% above the shipments during the last half of 1958 and 26% above the comparable period of 1958. The value of shipments of tufted bedspreads for the first half of 1959 was 19% above the level of shipments during the comparable period of 1958. During the same periods, dollar shipments of tufted robes declined 4%.

News Of The Trade

J. C. Cowan Heads N. C. Textile Mfrs.

J. C. Cowan, vice-chairman of the board of Burlington Industries, Greensboro, N. C., was elected president of the North Carolina Textile Manufacturers Association at the group's 53rd annual meeting October 8-9 at Pinehurst, N. C. He succeeds William C. Cannon of Kannapolis, vice-president of Cannon Mills Co.

Donald R. Jonas of Charlotte, executive vice-president of Johnston Mills Co., was named first vice-president; David R. LaFar Jr. of Gastonia, head of the LaFar chain of mills, was named second vice-president; and Thomas N. Ingram of Charlotte was named executive vice-president in addition to his post as secretary-treasurer.

In his remarks as retiring president, William C. Cannon expressed optimism over prospects for the industry; and credited the industry for its determination to keep pace with the times both through an improved operating philosophy and by acceptance of recent technological improvements. He said the nearly 50% increase in productivity per man-hour since 1947 is evidence of the industry's progressiveness.

Citing the textile industry's importance in the business climate of North Carolina, Cannon pointed out that 20.1% —or over $9 mllion a year—of the state's revenue derived from all corporations through corporate income taxes comes from the textile industry. Half of the state's manufacturing labor force is employed by the textile industry at an annual payroll cost of $652 million.

The principal guest speaker for the meeting, Rep. W. J. Bryan Dorn (D., S. C.), warned the group that the industry's struggle to implement the relief provisions recommended by the Pastore Committee is a long way from being over. He said the industry must continually be on the lookout for opportunities to amend the tariff laws advantageously, and that it must make the most of every such opportunity.

Some 350 North Carolina mill executives and their guests attended the meeting.

LaFar, Cowan, Ingram, Jonas

Newly elected officers of the North Carolina Textile Manufacturers Association include David R. LaFar Jr., the LaFar Mills, Gastonia, second vice-president; J. C. Cowan, Burlington Industries, Greensboro, president; Tom Ingram, Charlotte, executive vice-president, secretary and treasurer; and Donald R. Jonas, Johnston Mills Co., Charlotte, first vice-president.

Alex Bell Heads Combed Yarn Spinners

The thirty-fourth annual meeting of the Combed Yarn Spinners Association drew an attendance of some 200 mill men and their guests at The Cloister, Sea Island, Ga., September 17-18. Highlighting the meeting was the election of Alex W. Bell as president for the coming year. Bell, executive vice-president of American & Efird Mills, Mount Holly, N. C., succeeds Shannon M. Gamble of Standard-Coosa-Thatcher Co., Chattanooga, Tenn.

Bell

Dawson

J. L. Barnett of South Fork Mfg. Co. and Perfection Spinning Co., Belmont, N. C., was elevated from second to first vice-president to succeed Bell. A. G. Myers Jr. of Textiles Incorporated, Gastonia, N. C., was elected second viee-president to succeed Barnett. The election of Barnett and Myers places them in line for the presidency in 1960-61 and 1961-62, respectively.

A sad note at this year's meeting was the announcement by retiring President Gamble that the association's executive secretary—C. C. Dawson of Gastonia, was resigning his post for reasons of health. Unable to be present for the meeting, Dawson will continue in the post until a successor can be named.

In an election of other officers, M. T. Cameron was re-elected treasurer and five new members were named to the board of directors. New directors include Dan S. LaFar of the LaFar chain of mills, Gastonia; David R. Johnston, Johnston Mfg. Co., Charlotte; Ralph S. Robinson, Gastonia; T. C. Smotherman, American & Efird Mills, Mt. Holly; and Barron G. Groves, Peerless Spinning Corp., Lowell, N. C.

Guest speakers at the meeting included D. Harry Fincher of Southern Bell Telephone & Telegraph Co., Atlanta, who spoke on "Top Management Development," and Granville Alley Jr., a member of the law firm of Fowler, White, Gillen, Yancey & Humkey, Miami and Tampa, Fla., who spoke on "Good Industrial Labor Relations."

A.A.T.C.C. Meeting Has Record Attendance

A record attendance of some 1,680 members and guests highlighted the 38th annual meeting of the American Association of Textile Chemists & Colorists October 7-10 in Washington, D. C. This year's meeting, sponsored by the association's Southern region, was the first to be held in the nation's capital.

Following its usual format, the four-day meeting consisted of three technical symposiums, exhibits by suppliers, the intersectional competition for presentation of technical

papers, and an awards luncheon. The technical symposiums were devoted to "Wash and Wear," "Dyeing and Finishing of Blends," and "New Dyeing and Finishing Processes." Fifteen papers were presented.

In the intersectional research paper contest, the Northern New England Section won first place with a paper concerned with compressibility of pile fabrics. The Piedmont Section took second place with its report on a study concerned with the use of carriers in dyeing of hydrophobic fibers. The Delaware Valley Section took third honors with its report on fluorescent brighteners and bluing agents used in dyeing and processing wool. The Northern New England Section last won top honors in the competition in 1947.

High tribute was paid to Emery I. Valko, associate professor of chemistry at Lowell Tech, the 1959 winner of the Olney Medal, at a special luncheon presided over by Weldon G. Helmus of Fair Lawn (N. J.) Finishing Co., A.A.T.C.C. president. Dr. Valko was the sixteeth recipient of the award.

Leonard Smith of the National Cotton Council, Washington, acted as chairman of this year's meeting, with Nelson F. Getchell, also of the council, serving as deputy chairman. The 1960 meeting has been scheduled for October 6-8 at the Sheraton Hotel in Philadelphia, Pa.

Cotton Consumption Far Ahead Of Last Year

The consumption of cotton in the U. S. during August 1959 amounted to 711 thousand running bales according to statistics released by the Bureau of the Census. This monthly total consumption is far ahead of the 650 thousand bales used during August 1958. The cotton growing states used 683 thousand running bales in August 1959 compared with the 616 thousand figure for August 1958.

The over 19 million active cotton system spindles operated 9,715 million spindle hours in August 1959 compared with the 8,848 million hours operated in August 1958. Other specific information released by the government includes:

Item	August 1959 (running bales)	August 1958 (running bales)
Total Stocks	8,474,537	8,372,986
Stocks held in consuming establishments	838,344	1,523,387
Daily Average Consumption		
United States	35,581	32,215
Cotton-growing states	34,151	30,830
New England	1,254	1,193

N. C. State Textile Enrollment Up

The School of Textiles at North Carolina State College, Raleigh, reported a freshman enrollment increase of 57% and a total enrollment jump of 13% above last Fall's figures. In announcing the registration increase, Dr. Malcolm E. Campbell, dean, said the textile student body includes representatives from 16 states and 21 countries.

Campbell said the number of students transferring from other colleges and universities to the School of Textiles also has shown a marked rise. The school's total enrollment now stands at 346 including 74 new freshmen. This compares with 307 students who registered last Fall and 47 new freshmen who enrolled last year. Of the 346 students in this year's enrollment, 249 are North Carolinians.

The enrollment increase was attributed to two factors—

a much-improved financial situation in the textile industry, and an intensive recruiting program conducted by G. H. Dunlap, director of the placement bureau in the School of Textiles and Prof. W. H. Smith of the faculty.

A scholarship program including restricted and unrestricted funds totaling $28,400 has enabled the School of Textiles to attract some of the most talented graduates of the state's public schools.

Houston Jewell Heads Georgia Foundation

Jewell

R. Houston Jewell, vice-president of Crystal Springs Bleachery, Chickamauga., Ga., was named president of the Georgia Textile Education Foundation at the group's recent annual meeting in Atlanta. He succeeds Henry W. Swift, Swift Spinning Mills, Columbus. J. M. Cheatham, president of Dundee Mills, Griffin, was re-elected vice-president, and Hansford Sams Jr., assistant president of Scottdale Mills, Scottdale, was named treasurer. Other officers re-elected were T. M. Forbes, Atlanta, executive vice-president, and Frank L. Carter, Atlanta, secretary. New directors, elected for three-year terms, were: Cheatham; James A. Byars, Columbus; T. M. Bryan, Jefferson Mills, Jefferson; Joe L. Jennings, West Point Mfg. Co., West Point; and Garland H. Smith, Pepperell Mfg. Co., Lindale.

The new president, a native of Jewell, Ga., became affiliated with the Chickamauga firm following his education at Georgia Tech and the New Bedford (Mass.) Textile School. In World War I he served with the U. S. Coast Guard. He served as president of the Georgia Textile Manufacturers Association in 1953-54 and is prominent in the affairs of the American Cotton Manufacturers Institute, particularly in foreign trade matters. He has represented the A.C.M.I. abroad in international textile conferences for the past two years.

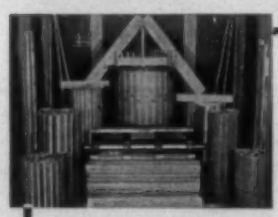
A highlight of the meeting was a warm tribute to Thomas H. Quigley, veteran director of the Industrial Education Department at Georgia Tech. Since 1926 Quigley has supervised the operation of vocational training programs in Georgia textile mills. These programs have enabled thousands of workers to increase their skills and value through on-the-job training and night class instruction. He was presented a check as a gift from the textile mills in Georgia which have participated in the programs.

Members of the foundation also voted final approval on some $67,000 worth of equipment and furnishings donated to Georgia Tech's A. French Textile School since 1952.

1959 Broad Woven Production Over Last Year

Cotton broad woven fabric production in the second quarter of 1959 was approximately the same as in the previous quarter but was 9% above the second quarter 1958 level according to statistics released by the Bureau of the Census. Production of broad woven goods made of man-made fibers during the second quarter 1959 was also at the same level as the first quarter but was 7% ahead of the second quarter in 1958.

The second quarter output of colored yarn cotton fabrics was 7% above the previous quarter's level and 15% above



the production in the second quarter in 1958. Production of cotton sheeting yarn fabrics showed increases of 2 to 16% compared to the previous quarter and the comparable period of last year.

Production of broad woven goods of man-made fibers was placed at 625 million linear yards during the second quarter of 1959 by the government agency. Rayon and acetate broad woven goods production during the second quarter this year was 2% below the previous quarter and 2% less than the output during the same period in 1958.

N.T.A. Elects Officers At 105th Annual Meeting

Seabury Stanton, president of Berkshire Hathaway Inc., New Bedford, Mass., has been elected chairman of the Northern Textile Association at the group's 105th annual meeting held September 24 at Portsmouth, N. H. William F. Sullivan of Belmont, Mass., was named president of the group.

George A. Dorr Jr., president, Dorr Woolen Co., Guild, N. H., and William H. Hubbard, vice-president and treasurer, William Skinner & Sons, Holyoke, Mass., were elected vice-presidents of the association and will serve for one year.

Senator John O. Pastore of Rhode Island was the recipient of the N.T.A.'s highest award, the Silver Medal, for his contribution to the textile industry as chairman of the special subcommittee of the U. S. Senate Committee on Interstate and Foreign Commerce which held hearings during 1958-59. Stanton made the presentation citing Pastore's keen insight into the multiple problems of the textile industry, his driving energy, and his sympathetic understanding of both the human and economic factors involved.

S. C. Finished 30% Of U. S. Cotton Goods In '58

Finishing plants located in South Carolina finished 30% of all cotton goods finished in the U. S. during 1958 according to the Bureau of the Census. North Carolina and Massachusetts finishing plants followed with 17 and 12%, respectively. In the finishing of man-made fiber and silk fabrics, New Jersey was the most important state accounting for 38% of the total production. Massachusetts and North Carolina accounted for 14 and 11%, respectively.

A total of 9,232 million linear yards of cotton, silk and man-made fiber fabrics was finished during 1958. This total is 6% below the amount finished in 1957. Cotton fabrics finished amounted to 7,238 million linear yards, or 6% less than the quantity finished in 1957. The 1,994 million linear yards of silk and man-made fiber goods was 4% less than the previous year's total, the bureau reported.

Improved Belfast Properties Announced

A new process to build maximum dry-crease recovery into Belfast self-ironing fabrics has been developed by Deering Milliken Research Corp., Spartanburg, S. C. George Cocoros, head of the Belfast division, said the new process involves an entirely different approach to basic molecular modification of cotton fiber plus the limited use of resins. "The big difference," he explained, "is that we have been able to get the maximum dry crease resistance from the resin and at the same time eliminate the harsh feeling which accompanies resin-coated fabric." As a result of the

new process, he said, Belfast fabrics are self-ironing when tumble dried as well as when line dried. The smooth hand has been improved by the new process, which also provides greatly increased tensile and tear strengths for Belfast fabrics in a wet and dry state.

Finishing plants licensed to produce Belfast fabrics are expected to utilize the new process immediately for commercial production, making fabrics available for Spring 1960 apparel lines. Belfast fabrics were introduced commercially about a year ago. The basic process involves a chemical modification of cotton fiber cross-linking between microscopic segments of the fiber. When Belfast fabrics are wrinkled in washing through hand-wringing or machine spinning, the cross-links guide fiber particles back to their original positions to provide a smooth or ironed effect to the fabric. Finishing plants licensed to produce Belfast fabrics include Bradford Dyeing Association (U. S. A.), Cannon Mills, Cone Mills Corp., Cranston Print Works, Sayles Finishing Plants, Southern Bleachery and Print Works and J. P. Stevens & Co. Several dozen fabric converters are licensed to trade in Belfast fabrics and more than 100 cutters are licensed to produce apparel and home furnishing products of Belfast fabrics.

Woolen And Worsted Production Up

Woolen and worsted fabric production during the second quarter of 1959 was 83.6 million finished linear yards. This was 15% above the first quarter output and about 14% above the comparable period in the previous year, according to the Bureau of the Census.

The output of women's and children's clothing fabrics at 45.3 million finished linear yards was 25% above that of the previous period, and 13% above the output of the second quarter of 1958. Men's and boys' clothing fabric production increased 8% during the first quarter to 35.9 million finished linear yards.

Output of nonapparel fabrics was 2% below the previous quarter. Production of blanketing decreased 1% to approximately 1.5 million linear yards. Production of transportation upholstery and other nonapparel fabrics amounted to 0.6 million yards during the second quarter of 1959.

Worsted Production Accents Wool Consumption

A sidelight on the dramatic recovery of apparel wool consumption by U. S. mills in the first eight months of this year was the 43% increase in raw wool consumption in the production of worsted fabrics. The increase was more than double the gain experienced in wool consumption for woolens. Total mill consumption of raw wool in this period was 32% ahead of the corresponding 1958 period.

In its report, "A Review of Current U. S. Wool Situation," The Wool Bureau says this increase has contributed to restoring wool's share of all fibers consumed in woolen spinning and worsted combing operations to 49%, compared with 45% last year. Worsted fabric production for the January-June period (latest figures available) was 30% ahead of last year's figures, compared with a 13% increase for woolens. The output of men's and boys' wear wool fabrics jumped 21% in the same period, compared with a 14% increase in women's and children's wear fabrics.

The Wool Bureau states in the report that supplies of wool at the beginning of the year proved far too low to meet mill requirements. They were augmented by consider-

ably bigger imports than the volume that has prevailed since 1954. During the first seven months, apparel wool imports of 66 million pounds, clean basis, exceeded the 1958 volume for this period by two-thirds.

Should mill consumption for the remainder of the year continue at the average January-July rate, the monthly rate of imports will have to increase by at least 50% to meet all requirements, according to The Wool Bureau. This means that the entire domestic clip of 130 million pounds would be consumed, while total apparel wool imports would reach 137 million pounds, clean basis.

During January-July, imports of wool fabrics reached 37 million square yards, an increase of 23% over the corresponding 1958 volume. The bureau notes that several small specialty yarn and fabric mills have been opened in this country during the past year—possibly the American wool industry's answer to competition from the specialty fabrics which have comprised a large part of the imports in the past.

Personnel Men Choose Reams

The personnel division of the South Carolina Textile Manufacturers Association has named T. J. Reams of Abbeville (S. C.) Mills as its chairman. Reams succeeds M. V. Wells of Greenwood Mills. W. H. Lawson, Clearwater Finishing Co., North Augusta, was named vice-chairman. New members of the executive committee are: Charles G. Johnson, Judson Mills, Greenville; J. B. Owens, Glenwood Mills, Easley; and Clyde E. Crocker, Riverdale Mills, Enoree. Some 90 personnel directors from various mills in the state attended the annual meeting.

1960 Cotton Acreage Set

The 1960 cotton crop national acreage allotment has been set at 16 million acres by Secretary of Agriculture Ezra Taft Benson. The allotment is the same as that for the present season. In 1960 farmers will be permitted to obtain additional acreage if they accept a 15 parity point reduction in their price support rate. This arrangement is also the same as that for the present season.

Farmers who elect the choice "B" allotments will be given an increased allotment of 40%. The price support levels, which will be announced later, cannot go below 75% of parity for regular cotton and 60% of parity for choice "B" cotton. The present levels are 80 and 65% respectively. The national acreage allotment for extra long staple cotton was set at 64,776 acres as compared with 70,822 acres for this season. A referendum will be held December on the quotas.

Harriet-Henderson Establishes Scholarship

A $1,000 annual scholarship has been established at the School of Textiles of North Carolina State College by John D. Cooper Jr., president of Harriet-Henderson Cotton Mills, Henderson, N. C. The scholarship will be known as the Harriet and Henderson Scholarship Fund.

According to Cooper, the scholarship will apply for a full four-year period for the winner in study leading to a B.S. degree in textiles. The recipient of the scholarship will be given Summer employment by the company. At the completion of his work the recipient would receive the opportunity to join the Harriet-Henderson organization, although he would have no obligation to do so.

A.C.M.I. Joins International Cotton Group

The American Cotton Manufacturers Institute has been elected to membership in the International Federation of Cotton and Allied Textile Industries, according to an announcement made by Dr. W. T. Kroese of the Netherlands, president, at the organization's general assembly in Vienna, Austria. Dr. Kroese said the election brings to 17 the number of countries represented by the federation of trade associations of spinners and manufacturers of cotton and allied fibers.

J. M. Cheatham, president of Dundee Mills, Griffin, Ga., and first vice-president of A.C.M.I., acknowledged the election at Vienna, saying, "the need for an international forum, such as this, becomes more intense year after year. It is obvious that we who produce the textiles for this world are in dire need for prompt, accurate and impartial information about developments in our business wherever they may occur."

Halbert M. Jones, president of Waverly Mills, Laurinburg, N. C., and chairman of A.C.M.I.'s Foreign Trade Committee, told the federation meeting that each national textile industry "has a real interest in the continued health and prosperity of every other national textile industry."

"It is only natural that vigorous industries will fight invasion of their domestic markets in every proper way," Jones added, "and particularly when such invasions are the result of foreign cost advantages which are denied by government action to the domestic industry concerned. Proper actions in self-defense, designed to maintain the health of a particular textile industry are therefore inevitable. It is our view that a strong economy in the U. S. is one of the basic conditions for world peace. Together with the apparel trade, the textile industry in the U. S. is the largest employer of any industrial group. Its vigor is vital therefore to our economy and to stable economic conditions for our friends in other nations."

Spears Scores Textile Competition, Cites Future

"No responsible person in the textile industry is seeking protection against foreign ingenuity," said Jackson E. Spears, New York City, vice-president of Burlington Industries, at a luncheon meeting of the Greater Charlotte (N. C.) Textile Club October 19. "What we do seek," Spears added, "is some rational equalization of the basic cost differences which are built into the various economic systems—differences over which there is no managerial control."

Spears pointed out that there are three major world textile manufacturing areas, the American, the Western European and the Oriental. Basic built-in cost differences were described.

(1) *Raw Materials*—All foreign manufacturers enjoy an advantage over American mills due mainly to agricultural support programs. He pointed out that cotton sells here at an eight cents per pound premium, wool usually at 25 cents per pound over world prices and man-made fibers are generally 10% to 25% more expensive here than in other world areas.

(2) *Labor*. Spears distinguished between the three world areas on labor costs, pointing out that the Oriental level is about one-tenth the American and the Western European level about one-third of the American. He mentioned that America has a slight advantage in productivity per man-hour but that this is insignificant when compared to productivity per dollar. Spears added that developments in common market mass production techniques would result in equal levels of productivity per man-hour.

(3) *Direct Costs*—Spears referred to greater encouragement of modernization abroad due to more realistic recognition of depreciation costs. He said that effective rates of corporation taxes were difficult to compare but hazarded an educated guess that such rates favored the foreign manufacturer by from 25% to 50%—with no country collecting at a higher rate than the U. S. He mentioned that cost of money was about the same here and in Western Europe but that Oriental manufacturers were at some disadvantage in this respect.

Spears welcomed competition from new manufacturing developments, styling techniques and sales efforts. He called this "stimulating and desirable—and within the field of competitive managerial responsibility."

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

Joseph W. Conlon has been appointed director of manufacturing of the dyestuff and chemical division of General Aniline & Film Corp., New York City. Conlon was formerly plant manager of the division's manufacturing operations at Rensselaer, N. Y. In his new position he succeeds Dr. Cris C. Schulze, who was recently promoted to assistant general manager of the division.

Whittier

Prof. Ben L. Whittier has given up his duties as chairman of the Department of Fabric Development in the North Carolina State College School of Textiles and will devote his full time to teaching. Whittier has had teaching duties in the departmnt since he became its head in 1948.

Mitchell Carlisle has been named manager of the Seminole Mills, Clearwater, S. C. Seminole is a part of the fabric production division of United Merchants & Manufacturers Inc. Carlisle was previously superintendent at Seminole Mills. He replaces Jackson L. Weldon, who has been transferred elsewhere in the company. Carlisle previously held management positions with Abney Mills, Toxaway Division, and Textron Inc., Anderson, S. C. He is a graduate of North Carolina State College in textile engineering.

Hackworth

E. T. (Tom) Hackworth has been transferred to Austin, Tex., representing the textile division of the Keever Starch Co., Greenville, S. C. Hackworth has been with the company for the last six years working in the bulk division in Michigan, Ohio and West Virginia.

A. H. Jackson Jr. has been appointed administrative assistant to R. C. Harrington, production manager of the textile division, U. S. Rubber Co., with headquarters at Winsboro, S. C. Jackson, a graduate of Auburn, joined the rubber company at its Hogansville, Ga., plant in 1936. Five years later he was transferred to U. S. Rubber's New York City headquarters in cost accounting. In 1951 he was named assistant plant manager at the Shelbyville, Tenn., plant. Before his new appointment, he was serving as the division's manager of management engineering at Winnsboro, S. C.

Dr. Bruno R. Roberts has been named to the newly-created position of information scientist for the Chemstrand Corp.'s research center. Roberts will be engaged in securing, analyzing and disseminating to Chemstrand personnel scientific information from sources both in this country and abroad. Dr. Roberts was among the first group of Chemstrand research scientists employed in 1952. Prior to joining Chemstrand, he worked in fiber research for Monsanto Chemical Co. at Dayton, Ohio, and previously had been on the staff of the Kaiser Wilhelm Institute in Berlin, Germany. . . . Daniel A. Mills will succeed Roberts as section head, technical information.

Hurt

Henry A. Hurt of Albemarle, N. C., has been appointed to handle service calls in the South for Dixon Corp., Bristol, R. I. Hurt will be available to all mills now using Dixon spinning changeovers or parts. He will assist in installing changeovers and will also be available for consultation on general spinning problems. Hurt has 18 years experience in all phases of spinning, including yarn laboratory testing, spinning section hand, and foreman.

Walter J. Bartlett has joined the fibers division of American Cyanamid Co., New York City, as a sales and merchandising representative in the woven goods department. Bartlett reports to Charles D. Reich, manager of the woven goods department, and will work out of the New York sales office. He comes to Cyanamid from Continental Mills Inc., where he was sales manager. He was with Continental for 20 years.

Dr. C. C. Schulze has been appointed assistant general manager of the dyestuff and chemical division of General Aniline & Film Corp., New York City. Dr. Schulze was formerly manager of manufacturing of the division. In his new position one of his major responsibilities will be to co-ordinate long range expansion projects from research to commercialization for the dyestuff and chemical division. Dr. Schulze joined General Aniline as a research chemist at the Linden, N. J., plant in 1942 and since has held various executive positions covering all phases of the company's dyestuff and chemical research and manufacturing operations.

John M. Bendheim, vice-president of M. Lowenstein Sons Inc., will head the 1959 Joint Defense Appeal campaign in the textile industry for funds for the Joint Defense which is seeking to raise $6,100,000 nationally this year for the community relations work of the American Jewish Committee and the Anti-Defamation League of B'nai B'rith.

Lanno

Edward C. Lanno has been named director of manufacturing services of Saco-Lowell Shops, Boston, Mass. Lanno, whose headquarters will be in the Saco-Lowell executive offices in Boston, has had wide experience in manufacturing and engineering posts in textile manufacturing and textile machinery. He began his business career with Columbia Mills at Minetto, N. Y. Since that time he has been associated in manufacturing and engineering capacities with such companies as General Motors, Ford Motor, Raytheon and Curtiss-Wright.

Robert B. Fort Jr. has been named plant manager of the Winnsboro (S. C.) Mills of U. S. Rubber Co. Fort first joined U. S. Rubber in 1938 at its Stark Mill in Hogansville, Ga., as a time study man. He served the company in a number of supervisory capacities and in 1957 was named assistant production manager of Winnsboro Mills.

William P. Crowley has been named sales representative for the mid-Atlantic states area by Fabrionics Corp., Huntington, Long Island, N. Y. Crowley is a graduate of the School of Textiles of North Carolina State College and has been in the textile field for the past 16 years. Fabrionics produces quality control instruments and devices for the textile industry.

Charles P. Bertland has been named assistant general manager of American Cyanamid Co.'s fibers division, New York City. In his new post, Bertland will work closely with Alden R. Loosli, division general manager, in directing over-all operations of the division, with particular emphasis on sales and merchandising activities. Bertland was previously connected with Beaunit Mills Inc., New York City, where he was executive vice-president in charge of sales for the fibers division. Prior to joining Beaunit

in 1955, Bertland was for 23 years associated with the yarn division of Eastman Chemical Products Inc., serving as sales manager and in other sales capacities.

Celanese Chemical Co., operating division of Celanese Corp. of America, has appointed four new vice-presidents. They are: Henry K. Dice, vice-president, technical director; David D. Hecht, vice-president, product development; Robert H. Kampschulte, vice-president, sales; and Ernest T. Lindsey, vice-president, manufacturing.

Larry Girard has been transferred from the home offices of James Hunter Machine Co. in North Adams, Mass., to the company's new Southern headquarters in Mauldin, S. C.

Carman

Edward C. Carman has been appointed to the sales organization of Louis P. Batson Co., Greenville, S. C. His previous associations include Union Bleachery in Greenville, Mayfair Mills in Arcadia, S. C., and Alice Mfg. Co., Easley, S. C.

Norman F. Garrett has been appointed general manager of the Whitinsville Division of the Whitin Machine Works. In this newly-created position, Garrett will be in charge of the company's Whitinsville manufacturing operations and the closely related functions of product engineer, purchasing, manufacturing cost control, and industrial relations.

Harold H. Belcher has been elected to the board of directors of Rodney Hunt Machine Co., Orange, Mass., and vice-president in charge of engineering. Belcher will manage the newly-formed engineering division. He has been with the company since 1943. Prior to that he was chief engineer for the Philadelphia Drying Machinery Division of Proctor & Schwartz.

Ronald R. Menti has been named manager of management engineering for the textile division of the U. S. Rubber Co., Winnsboro, S. C. Menti most recently was general manager of Latex Fiber Industries Inc., a subsidiary in Beaver Falls, N. Y. He joined U. S. Rubber in 1948 and in 1953 was named assistant to the executive vice-president.

Virgil E. McDowell has been named night superintendent of carding, spinning and winding of Jordan Spinning Co., Cedar Falls, N. C. McDowell was formerly with J. P. Stevens & Co., Roanoke Rapids, N. C.

Thomas B. Spence has been named Southern district sales manager for Warwick Chemical Division of Sun Chemical Corp., New York City. Spence, who will make his headquarters in Warwick's Rock Hill, S. C., office, was formerly associated with Bryant Chemical Corp. and with the organic chemicals division of American Cyanamid Co. in the Piedmont area. . . . Frederick B. Hennessey has been named technical sales representative for the division. He will call on the trade in Metropolitan New York and Pennsylvania. He was formerly associated with Industrial Rayon Corp. as sales service engineer.

Paul Compton, formerly personnel director for the Dunean Plant of J. P. Stevens & Co., Greenville, S. C., has been named office manager of the company's Monoghan Plant in Greenville.

Sibley

William A. L. Sibley Jr. has been named to the technical sales staff of Southern Sizing Co., East Point, Ga. Sibley, a graduate of Georgia Tech, was formerly with the West Point Mfg. Co., Lanette, Ala. Southern produces a line of sizing agents, detergents and mildew preventives.

P. B. Stephens has been named manager of the Coats & Clark plant at Clarkdale, Ga. He succeeds P. E. Hilley. Stephens joined Coats & Clark in 1932 at the Clarkdale mill. Before his recent promotion he was manager of the company's plant in Pelham, Ga.

Norman H. Polonsky has been named executive vice-president of the fibers division of Beaunit Mills Inc. Polonsky has been an officer and director of the company for 23

years. Since 1955 he has served as vice-president and director of the corporation. He also previously directed sales of North American Rayon Corp., a Beaunit affiliate.

Robert T. Stevens of J. P. Stevens & Co. and former Secretary of the Army, will be the guest of honor at the annual luncheon of the Joint Defense Appeal, November 12, at the New Yorker Hotel, New York City. The Joint Defense Appeal seeks to raise money for the work of the American Jewish Committee and the Anti-Dafamation League of B'nai B'rith.

Ray C. Anderson has joined the engineering department of Callaway Mills Co., LaGrange, Ga., as industrial engineer. Before joining Callaway, Anderson was associated with the Deering Milliken Corp. at Hartsville, S. C. He is a graduate of Georgia Tech.

Kenneth Nelms has returned to the Hillside Plant of the Hillcrest Division of Callaway Mills Co., LaGrange, Ga., as a trainee. Nelms was recently released from active duty with the U. S. Army. . . . Glenn I. Conway Jr. has also joined the Hillside Plant as a trainee. He is a graduate of Georgia Tech with a B. S. degree in textiles.

Mount

Charles Mount Jr. has been appointed to the engineering and sales staff of Louis P. Batson Co., Greenville, S. C. Mount will contact some of the company's customers in Georgia, Alabama and Tennessee. He is a graduate of Auburn with a B. S. degree in textile engineering. His mill experience includes service with Fulton Bag & Cotton Mills, Atlanta, Ga.; E. T. Barwich Inc., Dalton, Ga.; Lane Cotton Mills, New Orleans, La.; and Opelika (Ala.) Mfg. Co.

Nathan M. Ayers has been named executive vice-president and treasurer of Highland Cotton Mills, High Point, N. C. Ayers previously served as president in a semi-active status. He succeeds W. B. Hill, who has resigned. . . . J. E. Millis returns to the firm as president. . . . Frank Hunsucker Jr., son of one of the founders of the company, has been named executive vice-president and assistant treasurer. . . . C. M. (Jack) Hunsucker Jr. has been named a vice-president. . . . Other officers re-elected by the firm are H. Frank Hunsucker, chairman of the board; Gordon Eaves, vice-president; R. L. Proctor, vice-president and assistant secretary; and James M. Wall, secretary.

Joe E. Spearman has joined the research and development division of Callaway Mills Co., LaGrange, Ga. Spearman will act as product development engineer for the products of the Hillside Plant. Spearman is a member of the American Association of Textile Chemists & Colorists and the American Association for Textile Technology.

Dr. Peter P. Bouroff has been appointed assistant to the president of the Onyx Oil & Chemical Co., Jersey City, N. J. Dr. Bouroff was formerly manager of the chemical divisions of E. F. Drew Co., Boonton, N. J. In addition, Dr. Bouroff will serve as plant manager for Onyx's Jersey City and Staten Island, N. Y., plants.

Samuel R. Phillips has been named general manager of Latex Industries Inc., a subsidiary of U. S. Rubber Co. and jointly operated with J. P. Lewis Co. at Beaver Falls, N. Y. Phillips most recently was assistant general manager of the rubber company's textile division. A 1938 graduate of Georgia Tech, Phillips joined U. S. Rubber in 1939 and has served in a number of supervisory posts.

C. Eugene Moore has been named vice-president of manufacturing for the Worcester division of Crompton & Knowles Corp., Worcester, Mass. Moore was formerly plant manager for Mack Trucks. . . . George R. Thill has been named manager of commercial development for the corporation. Thill will promote further product diversification and acquisitions for the company. . . . G. Henry Uttering has been promoted to executive assistant to the vice-president of manufacturing. . . . Charles A. Hill has been named assistant works manager.

Robert L. Hamilton has been named superintendent of National Yarn Mills, Belmont, N. C. Hamilton was previously connected with Linn Mills, Concord, N. C.

Charles Skelton has been named superintendent of the Glenwood plant of Mayfair Mills, Easley, S. C. Skelton previously served as assistant superintendent at the company's Arcadia, S. C., plant. He succeeds W. P. Nicholson, who will be affiliated with the administrative branch of the company.

OBITUARIES

P. K. Drye, 71, general superintendent of the Linn and Corriher Mills of Landis, N. C., died October 12 after a heart attack. Mr. Drye was also a vice-president of Corriher Mills Co. He joined the firms in 1917. Surviving are his widow, a son and a daughter.

F. E. Grier, 59, president of Abney Mills, Greenwood, S. C., died October 13. Mr. Grier was a former president of the American Cotton Manufacturers Institute. He is survived by his widow and a son.

James William Pless Sr., 87, founder and original director of Marion Mfg. Co. and Clinchfield Mfg. Co. of Marion, N. C., died recently. Pless practiced law in Marion from 1900 to 1928 when he moved to Asheville. He retired from practice in 1945.

Col. Elliott White Springs, 63, president of Springs Cotton Mills and Springs Mills Inc., Lancaster, S. C., died October 15 in a New York City hospital. Surviving are his widow and a daughter.

Rudolph Wenner, 63, former superintendent of the Fayetteville, N. C., plant of Burlington Industries, died October 9 at his home in Fayetteville. In 1950, Mr. Wenner left the Fayetteville mill and became superintendent of the Kiamia Mills, Culpepper, Va. He retired from that post in 1955.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

WEST POINT, GA.—West Point Mfg. Co. here has reported an increase of 84% in net profit in the fiscal year ended August 29. Sales for the fiscal year increased 25%. Net profit of $6,032,376 or $1.99 a share as compared with $3,278,965 or $1.08 a share in the previous year was reported. Net sales rose to $145,619,052 from $116,093,190. A dividend of 25 cents a share was declared by the directors.

NEW YORK, N. Y.—Reeves Bros. here has reported net earnings of $974,843 or 85 cents a share for the fiscal year ended June 27. This compares with earnings of $120,376 or 11 cents a share in the preceding fiscal year. Sales for fiscal 1959 totalled $62,042,518 as compared with $55,974,582 in the previous year. The company reports that a 50% increase in the sales of industrial products contributed substantially to the greater earnings. The finishing and weaving of apparel fabrics, the company's principal business, also showed considerable improvement.

STATESVILLE, N. C. — Melville Textile Print Works will locate in West Statesville in a 47,000-square-foot building formerly occupied by Duchess Throwing Mill. The Melville Co., founded in Scotland, is a screen print operation. The company will employ 50 persons initially and will expand to 150 ultimately.

BOSTON, MASS.—Both sales and earnings of The Kendall Co. here have continued at a high level for the third 12-week period of 1959, according to Richard R. Higgins, president. The company manufactures a broad line of products, including surgical dressings, textile specialties, elastic stockings and polyethylene tapes. Net earnings for the period were increased to $1,326,000 or $1.27 per common share, compared with $714,000 or 66 cents per share for the corresponding period last year. Cumulative earnings for the first 36 weeks of the year of $3,528,000 or $3.37 per share also exceeded the results of the similar period of 1958 when earnings of $2,156,000 or $2.01 per share were recorded. Higgins attributed the increased earnings to the maintenance of a high volume of sales, increased profit margins, a reduction in some expenses, and gains resulting from disposals of properties. Sales for the third 12-week period amounted to $25,454,000. Sales for the period last year were $24,013,000. Cumulative sales for the first 36 weeks of the year were increased to $77,265,000 over $69,212,000 for the similar period of 1958.

TARBORO, N. C.—Glenoit Mills, Janesville, Wisc., subsidiary of Botany Mills, will build a 102,000-square-foot building here for the manufacture of pile fabrics used in coats, sportswear, rugs and industrial cloths. The plant will employ about 200 persons.

GREENVILLE, S. C. — Union Bleachery here has reported the damaging of an undetermined amount of cloth when flood waters entered the supply room and corduroy cutting room. Efforts were made to remove cloth and raise machinery when the adjoining stream began to rise.

ROCKINGHAM, N. C.—Rockingham Mills will begin operations here in the now idle plant of Safie Mills. The company will engage in the weaving and dyeing of upholstery products. It is expected to employ some 150 persons.

LINCOLNTON, N. C. — Sherman Textile Co., Worcester, Mass., producer of synthetic specialties, will open an additional plant here. The new plant will employ 10 to 20 persons initially. A one-story brick structure containing 20,000 square feet of space is under construction.

WEST POINT, GA.—West Point Mfg. Co. here and its associated company, Cabin Crafts Inc. of Dalton, Ga., have entered into a joint venture with Lanerossi s.p.a., Milan, Italy, to form a company in northern Italy which will manufacture tufted carpets and bedspreads under Cabin Crafts' patents. The new company will be known as Societa Europea Rossifloor. The chairman and managing director of Rossifloor is Dr. Luciano Francolini. He, along with three other executives from the Lanerossi interests, will serve on the board of directors. Other directors are Fred R. Westcott, chairman of the board of Cabin Crafts, Robert G. McCamy, president of Cabin Crafts, T. Scott Avary, executive vice-president, finance, West Point Mfg., and James L. Truslow, vice-president for foreign operations, West Point Mfg. Spokesmen for West Point and Cabin Crafts state that this concern will be aimed at the rapidly expanding market for carpets and other tufted products in the six-nation common market area of Europe. Lanerossi is one of the oldest woolen and worsted firms in the Italian woolen industry. The company has 12 plants and 10,000 employees in the northern Italian industrial area.

NEW YORK, N. Y. — Sales of Beaunit Mills here for the six-month period ended September 30 are expected to total about $60 million with earnings per share reaching $1.80, according to I. Rogosin, president. This compares with sales of $45,835,035 and earnings per share of 49 cents for the comparable six-month period in 1958. Rogosin predicted that sales for the year ended March 31, 1960, would total more than $115 million and that earnings would be $3.50 a share or greater. He said that nylon tire cord facilities were being expanded and that by 1961 production should total 12 million pounds. The company is presently producing 20 million pounds of Tyrex rayon fabric. The company consumes 7,500,000 pounds of rayon yarn annually from its own plants, according to Rogosin. Fiber sales amount to about 55% of the total volume of the firm.

JOANNA, S. C.—A recent fire in the Joanna Cotton Mill warehouse here damaged an estimated 500 bales of cotton, cotton strips and rayon. The fire is believed to have started from spontaneous combustion. W. K. Waits is superintendent of the plant.

LONG ISLAND, N. C. — Superior Yarn Mills' plant here has closed and the equipment is being moved to the company's main plant in Mt. Holly. The company also plans to close its plant at East Monbo, N. C., at the end of 1960 and consolidate all operations in its main plant. Some 120 persons were employed by the Long Island plant.

HENDERSON, N. C. — Harriet-Henderson Cotton Mills here plans to reach 100% production by November 14, the first anniversary of the strike against it by the Textile Workers Union of America. The mills currently are employing 950 persons and are operating at 90% capacity. Three shifts have been operating for the past four months.

WACO, TEX.—Texas Textile Mills plans to close its Waco Division denim plant here by Christmas in a move that will consolidate its operation with the company's larger McKinney (Tex.) Division. President Bryan C. Miller of Dallas informed 250 Waco employees by letter that the move is essential if the company is to continue in business. The company is making a sizeable investment in new machinery for the McKinney plant, which employs some 550 employees on two shifts. The consolidation will make practical a third shift at McKinney with only a minimum increase in the number of employees. The 40-year-old Waco Division is equipped with 11,000 spindles and 300 looms. Production at the plant in recent months has averaged 81,000 pounds of denim a week.

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THE NEED: Strong, non-returnable cores for heavy denier nylon

For winding heavy denier nylon yarn, exceedingly strong, non-returnable cores were required. These cores had to be capable of withstanding the constrictive force of the yarn which could cause the core to bind on the spindle, making it hard to doff. Furthermore, the cores had to be strong enough to withstand any wall compression, which might occur after winding, since this would interfere with the delivery of the yarn. These cores also had to possess a surface which would prevent slippage in the primary winding.

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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A Double Blow

SELDOM is any man so poorly regarded that his death inspires no mourners. Even less often does the death of one man sadden an entire industry. Yet within two recent days the textile industry has keenly felt the loss of not one but two of its most distinguished leaders—Francis Ebenezer Grier and Col. Elliott White Springs.

Francis Ebenezer Grier
1899-1959

THE son of a former mathematics professor, F. E. Grier was born November 17, 1899, at Due West, S. C. He grew up in Due West and graduated from Erskine College there with an A. B. degree in 1920. His first job was in the bookkeeping department of the National Union Bank at Rock Hill. Within four years he was named president of the First Union Trust & Savings at Due West.

He returned to Rock Hill in 1927 as vice-president of the larger Central Union Bank, a post he held until 1930. It was in that year that he first moved to Greenwood, S. C., to open a branch of Central Union. In 1933 he became president of the Bank of Greenwood.

Upon the death in 1942 of John P. Abney, founder of Abney Mills, the Bank of Greenwood was named an executor of the Abney estate. Later that same year Mr. Grier became president of the Abney chain when the Abney family asked him to become affiliated full-time with the mills. Despite the fact that he had no experience whatever in the not uncomplicated textile industry, he made the most of his managerial ability to lead the Abney chain through its many years of continuous growth.

As head of one of the industry's largest chains, Mr. Grier took great interest in many textile projects. He served as president of the American Cotton Manufacturers Institute and of the South Carolina Textile Manufacturers Association. In 1956 as A.C.M.I. president he led the industry's efforts toward the establishment of quota restrictions on low-wage imports from Japan. He had also served on a number of important industrywide committees, gaining the respect and admiration of his colleagues for the unselfish devotion with which he despatched each such assignment.

In addition to his textile activities, Mr. Grier was a vice-president and director of the State Bank & Trust Co., a director of the Carolina & Western Carolina Railroad, and a director of the Business Development Corp. of South Carolina. Widely interested in civic and church affairs, he served as treasurer of Erskine College; as trustee of the Lander Foundation; trustee of the South Carolina Association of Independent Colleges; and director of the Greenwood Y.M.C.A. He was a former president of the Greenwood Chamber of Commerce, and for the past year had served as chairman of its industrial committee. He was the holder of honorary degrees from three South Carolina colleges, the doctor of textiles from Clemson, doctor of humanities from Lander and doctor of laws from Erskine.

Surviving are his widow, a son, a sister and two brothers.

Col. Elliott White Springs
1896-1959

COL. ELLIOTT SPRINGS was born in Lancaster, S. C., in 1896, the son of Col. Leroy Springs, founder of Springs Cotton Mills. He attended Culver Military Academy and graduated from Princeton University in 1917 with an A. B. degree. He first rose to national prominence as a fighter pilot in World War I, serving with both British and American forces. At the end of the war he had risen to the rank of squadron commander and was officially credited with destroying 11 enemy planes. As this country's No. 3 flying ace of the war, he was decorated with the

Distinguished Service Cross, the Distinguished Flying Cross and the British Medal of Honor.

He first tried his hand at a textile career in 1920 when he was named secretary-treasurer of his father's Kershaw Cotton Mill at Kershaw, S. C. Following a number of ups and downs during the next five years—during which time, as he himself described it, he was vice-president one day and office boy the next—he forsook the family business to move to Paris where he settled down to write a mixture of war and romantic adventure stories. His diary-account of a World War I aviator, which he entitled *War Birds*, became a best-seller and was later acclaimed one of the best novels to come out of the war.

While his writings won additional prominence for him, they did little to convince many skeptics back home that the young playboy would ever become a valuable adjunct to his father in the textile business. Yet when he began his "second career" in textiles in 1928 he proved himself of such merit to his father that, following his father's death in 1931, he took over the reins of most of the Springs enterprises. Two years later he merged all the mills into one company called The Springs Cotton Mills. Under his guidance the mills continued to expand, both in size and capacity. A new bleachery was added at Grace Station, S. C., in 1948, and by 1959 the capacity of Springs Mills had increased from 2.5 million yards weekly in 1931 to 12 million.

It was not until 1942 that Elliott Springs attained the rank of colonel. He received it in full military service. He had been a captain when he left active duty at the end of World War I. It was with this rank that he returned to military service in 1941 at the age of 45. After Pearl Harbor the entire production facilities of Springs Cotton Mills were offered to the government for production of military materials and supplies. He retired in 1942 with the rank of lieutenant colonel after serving as executive officer at Morris Field in Charlotte. He returned to the management of the mills and before the end of the war all Springs plants were flying the Army and Navy "E" pennants for their contribution to the war effort.

The variety of the mills' products during the war gave the Colonel a springboard for launching in consumer magazines all over the country a series of advertisements the likes of which had never been seen before and may never be seen again. Copy for the first series of the Springmaid ads invariably began with, "During the war, the Springs Cotton Mills was called upon to develop. . . . " In each case this special fabric was available for civilian use under the Springmaid level. One ad read: "During the war The Springs Cotton Mills developed a special cotton fabric which was woven to be water repellant and wind resistant. It was then made into ski pants and Arctic uniforms. This fabric is now available to the false bottom and bust bucket business and if you want protection from a sudden draft on a windy corner, look for the Springmaid label on the bottom of your trademark." The ad was illustrated with a shapely Springmaid girl standing on a street corner with her skirt being blown by the wind.

Under the Colonel, Springmaid rode the crest of every new product craze—from anti-histamines to chlorophyll. In one memo to his advertising agency, the Colonel pointed out that the company had developed a cloth with a green stripe which had been treated with chlorophyll. "The title of this ad," he told the agency, "will be 'We put the broad in broadcloth—and now the filly in chlorophyll."

There was criticism of his risque approach to advertising—some publishers refused to accept it—and more conventional advertisers wondered if it sold Springs products. "When we started our advertising campaign," the Colonel remarked in 1953, "we had six customers using the Springmaid label. We now have over 10,000 stores in every state and every province who display our sheets, pillow cases and broadcloth under the Springmaid label. We can't keep up with the demand. However, I can't give the credit for this to our advertising campaign. At the same time we began advertising, we bought new machinery and rebuilt our plants. Even our competitors admit that we make the best cloth in the market, and our sales have increased in direct proportion as we proved this to our customers by laboratory tests and practical demonstrations. My grandfather and my father before me ran this business for 60 years on the mousetrap theory, and it must have worked pretty well. They never spent a nickel on advertising. I am not sure that I was wise to change that policy." At least he wasn't foolish enough to suggest that such advertising could sell an inferior product.

* * * * *

The textile industry will never again see the equal of either of these men.

TEXTILE INDUSTRY SCHEDULE

— 1959 —

Dec. 5 (Sa)—Fall meeting, **PIEDMONT DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Johnston Memorial Y.M.C.A., Charlotte, N. C.

— 1960 —

Jan. 16 (Sa)—Meeting of Board of Governors, **SOUTHERN TEXTILE ASSOCIATION**, The City Club, Charlotte, N. C.

Feb. 18-19 (Th-F)—Annual conference, **TEXTILE DIVISION, AMERICAN SOCIETY FOR QUALITY CONTROL**, The Clemson House, Clemson, S. C.

Apr. 7-9 (Th-Sa)—Annual meeting, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Americana Hotel, Bal Harbour, Fla.

Apr. 20-21 (W-Th)—Annual meeting, **ALABAMA TEXTILE MANUFACTURERS ASSOCIATION**, Buena Vista Hotel, Biloxi, Miss.

Apr. 28-30 (Th-Sa)—The 59th annual convention, **PHI PSI FRATERNITY**, Hotel Roosevelt, New York City.

May 19-21 (Th-Sa)—The 60th anniversary meeting, **GEORGIA TEXTILE MANUFACTURERS ASSOCIATION**, Diplomat Hotel and Country Club, Hollywood, Fla.

May 23-27 (M-F)—**AMERICAN TEXTILE MACHINERY EXHIBITION**, Atlantic City, N. J.

May 26-28 (Th-Sa)—Annual meeting, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, The Cloister, Sea Island, Ga.

May 31-June 2 (Tu-Th)—11th Annual **COTTON RESEARCH CLINIC** (sponsored by The National Cotton Council), Grove Park Inn, Asheville, N. C.

June 23-25 (Th-Sa)—52nd annual convention, **SOUTHERN TEXTILE ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Sept. 27-28 (Tu-W)—The ninth annual **CHEMICAL FINISHING CONFERENCE**, sponsored by the National Cotton Council, Statler Hotel, Washington, D. C.

Oct. 3-8 (M-F)—The 21st **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 5-8 (W-Sa)—Annual Meeting, **CARDED YARN ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

CLASSIFIED ADVERTISING

POSITION WANTED
Dyer wants position as overseer or assistant overseer; age 44; college graduate, Industrial Engineering; 22 years' experience—raw stock, beam, package, jigs, becks, steam pad continuous, long chain systems—for cotton, wool, synthetics. Experienced laboratory control for color matching, formulations, application procedure. Experienced in cost, quality and production control. Can furnish best of references. Reply:
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WANTED—Position as Superintendent or General Overseer. Practical experience in all phases of manufacturing. Regular yarns, sales yarns, twines and ropes. Experience covers Carding, Spinning, Twisting, Winding and Weaving. Employed. Reliable and sober. Address replies to Box "T. Y. U," care Textile Bulletin, P. O. Box 1225, Charlotte 1, N. C.

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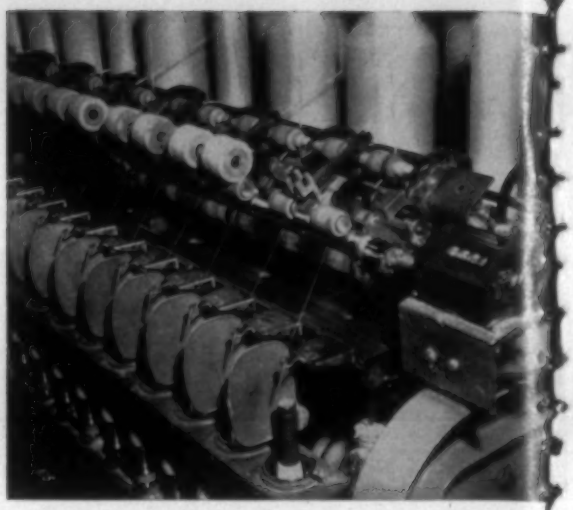

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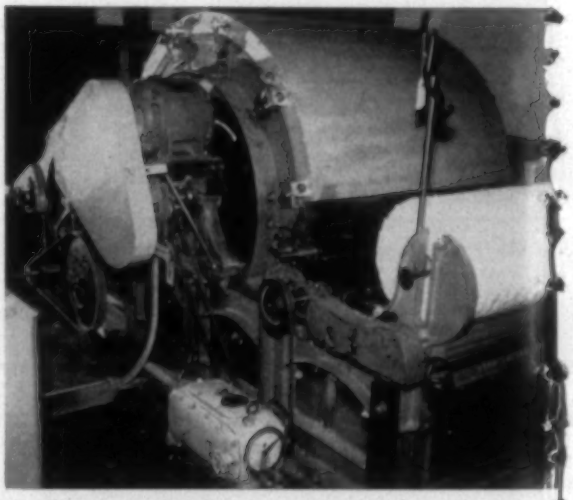

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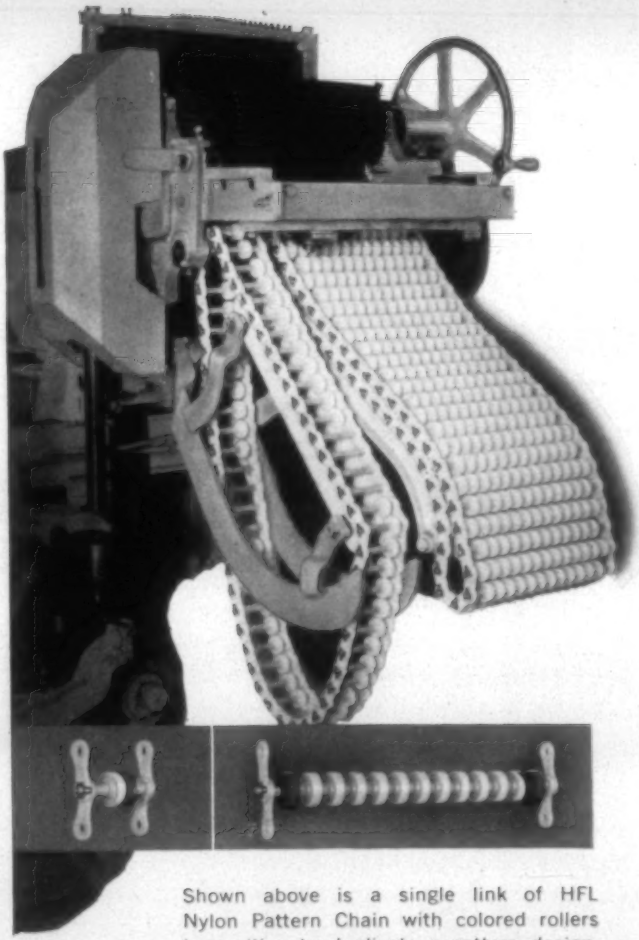

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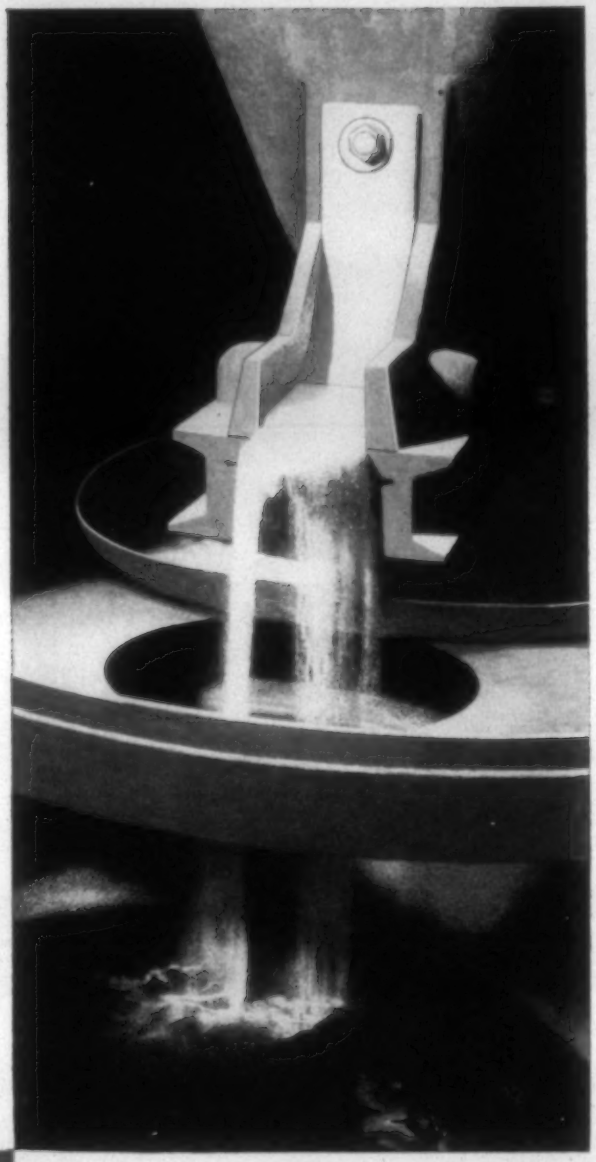

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